

American
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and
Forest Life



March 1930

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ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in cooperation; the REFORESTATION OF DENUDED LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states, and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

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Member A. B. C.

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"At the Old Dam"

Franklin Gray McIntosh

Indefinite
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AMERICAN FORESTS AND FOREST LIFE

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Large Transplants at Low Cost



RED PINE
(*Pinus Resinosa*)

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This is the extremely fast-growing variety introduced by Dr. Wilson. From Texas to Maine and the Pacific Coast come golden tales of its hardiness, resistance to extreme of temperature, and extremely rapid growth. The best of it is, they are mainly true. Chinese Elms should not be planted in heavy, wet soils. But we know of five hundred thriving on the tip of Cape Cod, with salt spray flying over them during stormy weather.

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250 12 to 18 in. XXX		
B&B	100.00	900.00

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The variety grows into a large, graceful specimen, much in demand by landscape architects for natural effects. It stands shearing very well and will make perhaps the best sheared evergreen hedge in all nature. One of the few evergreens that will thrive in dense shade.

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is now ready for distribution. The best varieties of Evergreens, Trees, Shrubs, etc., in concise form, priced and described. There are thirty photographs in natural color. Also Kelsey prices—bargains in many varieties unequaled elsewhere, when quality is considered. Copy free if you ask for it.

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AMERICAN FORESTS

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No. 3

The Case of the Brown Bear

Is the Great Kodiak, Largest Carnivorous Animal in the World, a Menace to the Social and Industrial Development of Alaska?

By GEORGE F. HATCH

MANY complaints have been lodged in recent years against the great Kodiak brown bear. Since the introduction of agriculture into Alaska, the hand of the farmer has been raised against him. The fisherman, too, has condemned the brown bear, for he is rated a destructive element to the salmon industry. Even the miner has voiced his protest although he has more generally acquiesced in the popular notion that removing hazards from the life of a prospector is like taking love out of romance. From the better upholstered office positions a great variety of opinions have been expressed as to the destructiveness and temper of the animal and as to the proper policy to be pursued regardless of these traits.

There are many who declare that the preservation of any species merely as a target for sportsmen is without justification. That, to say the least, is a rather unkindly rating of the true sporting instinct. There is no escape from the purely sporting aspect of any game question, and until that aspect is given reasonable consideration the matter is never rightly settled. Facing a Kodiak bear is a skilled hunter's job and, for a lone man, the chances may be considered about even. That fierce and massive head in the mood for killing, bearing down upon a hunter, is a real test of nerve and leaves nothing

to be desired as a trophy that is hard to face and hard to get. He is the largest carnivorous animal in the world, weighing sometimes upwards of a ton, and when aroused is one of the fiercest and most dangerous foes to be found in the wilderness of any country. Hunting such an animal is indeed a sporting chance and any man

with sporting instinct would not vote to see him swept from the list of hunters' hazards and go the way of the bison.

It is generally conceded that bears commonly avoid human habitations, yet I have seen them up in that country where the wilderness and the towns are next-door neighbors, within three miles of a town of three thousand inhabitants. Outlying farms are much exposed to the ravages of these beasts, making the livestock business a somewhat risky experiment. Cattle, hogs and sheep frequently fall victims to his ferocious night raids. Fishermen claim that the brown bear is especially destructive to salmon, as it is his habit to do his fishing in the spawning grounds where the damage is most telling. The fact that the salmon maintained their numbers against all the agencies of destruction before man came on the scene is no answer to the argument. It is now a matter of getting the maximum protection for the maximum consumption and the extra enemy is one



© Harold McCracken

AN ADROIT FISHERMAN
The brown bear is the avowed enemy of the salmon fishers, and this cub has learned to cleverly take his own

too many. The fine balance of live and let live that is maintained under natural conditions no longer holds when fish becomes an item in the economy of civilization.

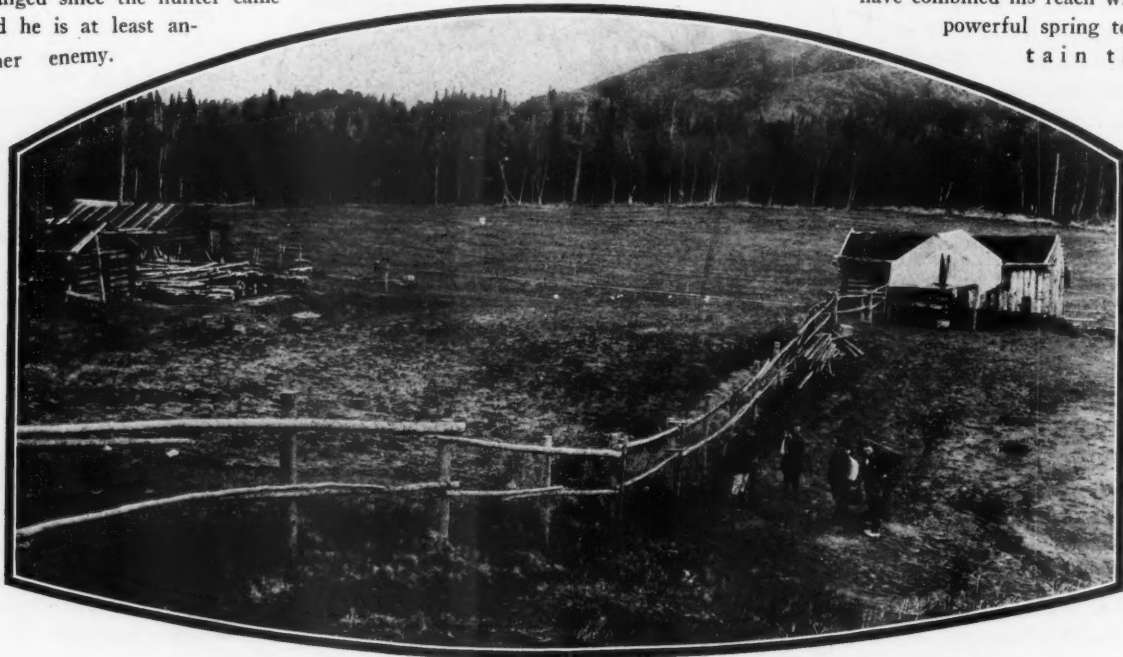
He is also a hunter of wild sheep. The extent and significance of his menace to these animals is, perhaps, more open to question than are the other items. Certainly he hunts them and hunts them persistently, going long distances to invade the sheep meadows, far up beyond the timber line. I recall one sheep hunting trip up in the Chugach Mountains in which, for fifteen miles along a certain stream, the tracks of three brown bears ran parallel to our own, straight for the sheep lands. There is nothing casual about that kind of hunting. It is persistent and purposeful and, coming from such a radius as this trail indicated, could mean much damage to the sheep herds. As in the case of the salmon, whatever may have been the status in nature's own economy, times have changed since the hunter came and he is at least another enemy.



AFTER THE RAID

A prospector standing beside his cache which has been robbed by a brown bear. Weary days of hunger often follow such visitations

Unquestionably the brown bear is dangerous to life. One may enjoy the occasional risk of hunting such big game, but establishing a residence with the brown bear is a vastly different proposition from rushing out occasionally to meet him in combat. A man likes to choose his time to go hunting, but a regular resident of the bear country very frequently finds that the time and place of combat is set, not by design, but by accidental circumstance, always inconvenient. I have a prospector friend who came near starving to death on account of a raid from a Kodiak bear. He had hauled his food supply for summer while the streams were frozen, taking it far up among the mountains. When he built his cache, he set it up on twelve-foot poles which would seem high enough for protection against any kind of animal; but against this one, it certainly was not. One night in early spring, when bears are especially ravenous, a big Kodiak brownie got into the cache, demolished practically everything he could not eat and carried away the meat supply. He must have combined his reach with a powerful spring to attain that



WHERE FIELD AND FOREST MEET

An Alaskan outpost of civilization where man and the brown bear are at war. This is the retreating timber line from which the huge Kodiak raids the farms in a battle which the farmer insists must come to a decision

height. My friend lay in wait and got the huge beast when he returned for another raid on the following night, but the summer prospecting plans had been ruined. The brown bear has very little sense of fear. Indeed,

why should he be afraid? There

is no animal in his country to harm him. In

those rare in-

stances when

he has been

persuaded to

modify his

course when

met upon the

trail, he has

done so with

an air of con-

descending

generosity.

My friend

William L.

Hugel, a vet-

eran prospec-

tor, once told

me the follow-

ing story of his

meeting with

a brownie:

"I was about

to cross a

stream upon a

fallen log.

One has to

watch his foot-

ing closely in

such a cross-

over a swift

mountain

stream, so I

wasn't looking

far ahead. I

had my gold

pan with me,

but no fire-

arms. As soon

as I had se-

cured good

footing,

I glanced up

and there, at

the other end

of the log, was a big brownie. We saw each other at about the

same time. He stopped with raised head, sniffing the air, but

without any sign of fear. I stopped, too, for numerous and

sufficient reasons. We stared at each other for fully half a

minute. I dared not retreat and I perceived that his dignity

and self-control were perfect. Suddenly I said 'Woof!' So did

he, but it was plain that he enjoyed the game more than I did

and showed more enthusiasm. It was my game, however,

and I decided to outplay him if I could. I started waving

my arms, yelling wildly, and beating upon

the gold pan. He was mildly

interested. I quieted

somewhat because I

could not sustain

that pitch, and

then, gather-

ing more

energy, I start-

ed rising to

another cre-

cendo. This

time he began

looking

around casual-

ly, and I knew

that he was

considering a

move. I made

no attempt to

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and I feared

that he might

resent any in-

terference. He

backed up a

step, turned

slowly around

and with per-

fect dignity

stalked off into

the bushes.

He was prob-

ably not hun-

gry and the

log was an in-

convenient

place for his

type of combat.

Otherwise I

do not believe

he would have

retreated."

The brownie

is indifferent to man's convenience, even when he is in the best

of moods. At other times he is positively vicious. There are

innumerable instances in which men have been badly mauled

or even killed when there seemed to be no provocation for

the attack. On one occasion a man was walking down the

track of the Alaska Railroad when a brownie rushed out of



From a painting by Belmore Brown
By courtesy of the University Society

THE GREAT ALASKAN BROWN BEAR

The fierce and massive predatory creature, distinguished by the fact that he is the largest carnivore in America, and quite probably in all the world

of the log, was a big brownie. We saw each other at about the same time. He stopped with raised head, sniffing the air, but without any sign of fear. I stopped, too, for numerous and sufficient reasons. We stared at each other for fully half a minute. I dared not retreat and I perceived that his dignity and self-control were perfect. Suddenly I said 'Woof!' So did

he, but it was plain that he enjoyed the game more than I did and showed more enthusiasm. It was my game, however, and I decided to outplay him if I could. I started waving my arms, yelling wildly, and beating upon the gold pan. He was mildly interested. I quieted somewhat because I could not sustain that pitch, and then, gathering more energy, I started rising to another crescendo. This time he began looking around casually, and I knew that he was considering a move. I made no attempt to hasten the conclusion; the plan he was contemplating was his own and I feared that he might resent any interference. He backed up a step, turned slowly around and with perfect dignity stalked off into the bushes. He was probably not hungry and the log was an inconvenient place for his type of combat. Otherwise I do not believe he would have retreated."

the woods, scalped him and mauled him into unconsciousness. Only the fact that he put up no resistance and was soon left for dead accounted for his survival.

There are two outstanding schools of thought with regard to what a bear will do under certain circumstances, but unless one understands just how a bear does his reasoning a certain amount of caution is good in all cases. On the one side of this question are certain philosophic individuals who are wont to idealize too much at long range. On the other side are a number of people whose scalps have been removed and who are ably seconded by the widows of prospectors who failed to understand the point of view of the bear. The former maintain that no bear ever attacks a person except under strong provocation or when goaded by the memory of previous unpleasant contact with man. However, it is doubtful if one could die any more gracefully with that thought in mind. The widows maintain that these methods of excusing a bearish disposition are sentimental, impractical and beside the point. They point out that when a bear socks a man into the Far Country, the matter of just what he had

in mind as a justification of the act has no bearing upon the expense of bringing up the orphans.

It is at least a moot question as to just what, in the mind of the average well-brought-up bear, constitutes a reasonable provocation for attack, and it is not always safe at close range to question a bear regarding his past. The situation is too delicate. Consequently the debate goes on and the complaints continue to come in from those nearest the scene of action, against the law that forces them at certain seasons to be passive neighbors of the brown bear. Some time in the future this voice is going to insist on a hearing in the camp of the sportsman and a just solution should be at hand.

Mere preservation of the species does not present the most desirable remedy. That can be done in parks as has been done in the case of the bison. There should be real perpetual hunting grounds. Although commonly called the Kodiak brown bear, this animal has been seen beyond the Arctic Circle, and certainly there is ample room for a zoning plan that will preserve the hunting grounds, and still provide for extermination in districts where industry is jeopardized by the predacious ways of the brown bear.

Annual Meeting Looms as Greatest in History of Association

A CLOSE-UP of the forest problems of the Lake States and the rôle of forest conservation and its related fields in the progress of the nation will be spotlighted when the foremost foresters and conservationists in the country gather at Minneapolis, Minnesota, April 29 and 30 and May 1, for the annual meeting of The American Forestry Association. Among the speakers will be men and women who are most closely associated with these problems, and whose conclusions undoubtedly will do much to further public understanding of forest problems and their bearing on major questions in related fields of conservation.

All phases of forest conservation will be discussed—reforestation, taxation, forest-fire protection, forest recreation, utilization, and wild life. The program is designed to inspire a real stimulus to forestry work, particularly in the Lake States.

Members and others who are planning to attend the meeting are urged to write The American Forestry Association concerning hotel reservations and special railroad rates. If a sufficient number advise the Association of their expected attendance, a substantial reduction in railroad rates will be available.

Members should make a special effort to attend this meeting. Indications are that it will be one of the greatest annual conferences in the history of the Association. Instruct the Association to make your reservations NOW.



Stephen T. Mather

The Great Apostle of National Parks

By HORACE M. ALBRIGHT

IT IS impossible to measure by any standards the great loss to the world of conservation in the passing of Stephen T. Mather, until January, 1929, Director of the National Park Service. Yet to me that point pales into insignificance when I realize that my friend and leader, the man whose friendship I gained when he first came into the government service fifteen years ago, is gone. There was never such a friend; and in this many—almost legions, so all-embracing was his generosity and kindliness—will agree with me.

In many ways, in almost every way, he was an unusual man. In his work for the government he sought no personal gain. Rather, he sought to give, that others might gain. His whole object was to administer and protect the National Parks and Monuments under his charge in such a way that the greatest good might be derived from them by the greatest possible number of people, while at the same time preserving these areas as nearly as possible as Nature made them, so that future generations might have the benefit of contact with the primitive conditions encountered by their forefathers. Himself a descendant of those sturdy pioneers from the Mayflower who wrested a living out of the wilds and laid the foundations for our modern civilization, he cherished the heritage they handed down and felt a responsibility to preserve the best for posterity.

His life history might well serve as an example of the best possible use of the advantages which this country offers to her citizens. Although of New England descent, he was born in San Francisco, California, July 4, 1867. In California, too, he received his education, working his way through the University of California by selling books up and down the Pacific Coast. His schooling finished, he migrated to New York, where he secured a position as reporter on the *New York Sun* and spent five years eagerly pursuing news and putting to excellent use his natural flair for publicity.

The next major step in his business career was his entrance into the commercial world in a subordinate position in the Pacific Coast Borax Company. With his instinctive ability to get the most out of everything that came his way, he learned the borax business in complete detail, with the result that he eventually worked out a plan for a reorganization of the company's business, and coined the slogan "Twenty Mule Team" which later was to become a household word. Although he rose fairly rapidly in the company for such a young man, he sought greater opportunities, and with a young mining engineer started his own borax business. In this he made the fortune that he later shared so generously with the nation through his investments in scenic beauty on which the people receive the dividends.

At the height of his career as a successful business man, when like many financiers he might have dreamed vast dreams of a colossal fortune and set about making this dream come true, he accepted instead the call to serve his country by coordinating and developing the National Parks. The call came from Franklin K. Lane, an old associate at the University of California and at that time Secretary of the Interior. So, in the interest of conservation and of the public welfare, Mr. Mather in January, 1915, became Assistant to the Secretary of the Interior, at a salary which could not even pay half the salaries he in turn paid to assistants who could not be employed on the government payroll because of lack of funds, and set about his stupendous task of fashioning the National Park system as it exists today, in a form that now serves as a model for many foreign nations. At that time there were thirteen National Parks, most of which were difficult of access and some of which were almost uninhabitable by the average person unused to inconvenience of roughing it in the wilds.

Mr. Mather, to make the success he did of his personal career, naturally possessed great individuality and initiative. These qualities, however, led him up against a stone wall of government red tape, which to a man of less caliber might have seemed insurmountable. Accustomed to making his own decisions, to gambling with fate if necessary for a big stake, he found himself handicapped by a series of laws and regulations and precedents that for a time made life miserable for him. But his earnestness and eagerness, and his unquestioned integrity, made it possible for him to slash the red tape and to secure modifications of laws and regulations to a point where the Service, as it exists today, might be possible. At the beginning he spent freely from his own pocket for many purposes for which government funds were not available. Then Congress, fired by his enthusiasm, and realizing the benefit the nation was deriving through having the services of such a man, began to investigate Park matters and to make larger appropriations. In 1916, it enacted a law establishing the National Park Service as a separate bureau of the Department of the Interior, and as soon as funds were available Mr. Mather was appointed Director, serving in this capacity until ill health forced his retirement in January, 1929.

In connection with his National Park work, and as a corollary thereto, Mr. Mather in 1920 initiated the state park movement which has spread so rapidly and which is now established on a firm footing through the National Conference on State Parks, of which he was chairman.

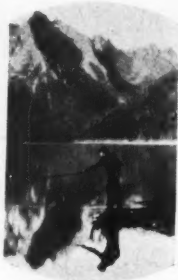
He not only spent freely of his own money, but by his example led others to do likewise. One of the first instances of this kind was in Yosemite National Park, California, where an old toll road owned by a mining company was the only means of crossing the Sierra Nevada in the Park. Fearing that it might pass into other hands Mr.

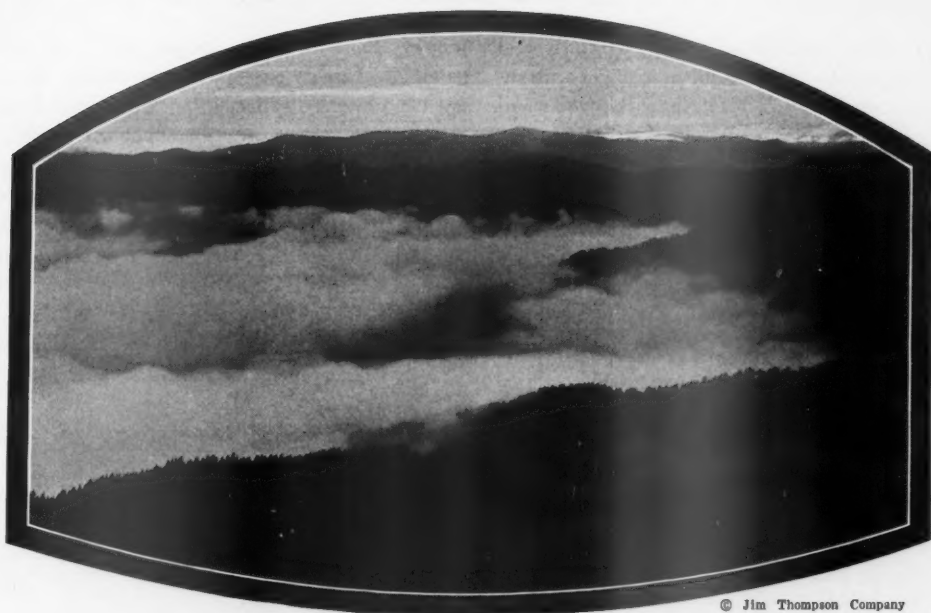
Mather interested some of his Chicago friends in the matter, characteristically putting up the bulk of the money himself, and the scenic Tioga Road was purchased and donated to the government. Today it offers visitors to the Park a two-day trip of exceptional scenic beauty. In Sequoia National Park, created because of its magnificent stand of *sequoia gigantea*, the famous, centuries-old Big Trees, he personally bought, and induced others to assist in buying, great groves of these noble trees and thus saved them from the ax, and from providing the world with grape stakes and pencils rather than inspiration throughout the ages. So his benefactions to the Park system and the nation at large continued. No one knows the amount of his gifts for this purpose, but what is known runs high. He gave and gave, and derived his own pleasure from the giving.

He gave of his strength as well as his money, and in November, 1928, his body gave up the unequal race to keep pace with his eager spirit. While in Chicago, where he went to do his duty as an American citizen and assist in selecting our next President, he suffered a stroke from which he never fully recovered. After showing a great improvement, last June he went to Darien, Connecticut, to the old homestead of his ancestors, and there continued to gain strength. The week-end of January 19 he was apparently stronger and in better physical condition than at any time since his illness. But the following Wednesday he was suddenly stricken and died almost instantly. And the world is much the poorer for his passing, as it is much the richer for his having lived.

That public opinion and affection is not always fickle has been demonstrated in Mr. Mather's case. Although forced into almost utter seclusion for over a year, due to his illness, the tremendous public interest in him and appreciation of his fine work continued. This was indicated by the glowing tributes to him contained in newspaper editorials and news items published all over the country at the time of his death.

Among the many honors bestowed upon Mr. Mather during his latter years were the honorary degrees of Doctor of Law bestowed upon him by George Washington University in 1921 and by the University of California in 1924. In 1926 he was awarded the gold medal of the National Institute of Social Sciences for his service to the nation in the development and administration of the National Parks. After his retirement from public life he was awarded the Pugsley gold medal by the American Scenic and Historical Preservation Society, in recognition of his exceptional services in National and State Park work, and still later was made an honorary member of the American Society of Landscape Architects. The country at large has tried to show its appreciation of its great citizen.





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Sunrise from Myrtle Point, above the clouds on Mt. Le Conte

A New National Park in the East

The Great Smokies, a Ten-Million-Dollar Gift to the Government

By LAURA THORNBOROUGH

THE Great Smokies entered the National Parks family, the twenty-second in number and the fifth in size, on February 6. At this time Governor Horton of Tennessee, Governor Gardner of North Carolina, David C. Chapman, Chairman of the Park Commission, together with members from the two states, assembled in the office of the Secretary of the Interior at Washington and turned over to the United States Government deeds to a hundred and fifty thousand acres of mountain land which will now be administered by the National Park Service. Active development of the new park will be begun when a total of 428,000 acres has been bought, paid for, the titles cleared and the lands deeded to the government.

The work of buying up this land when and where it could be obtained at a reasonable price has been quietly going on since the enabling act was passed by the Sixty-ninth Congress and signed by President Coolidge in May, 1926. By this act the government may accept as much as 704,000 acres but will begin developing it when 428,000 acres is received. When completed the new park will represent a gift of ten million dollars to the government.

Who is paying for the nation's new park? By private donations and state appropriations nearly five million dollars was raised to buy land from the mountain farmers and big lumber companies who owned it. This sum was matched by the Laura Spellman Rockefeller Memorial fund.

The history of the new park is as interesting as the region

itself. It represents bright dreams, hard work, many disappointments, some misunderstandings and not a few heart-aches. As was to be expected, mountain farmers were encountered who did not wish to sell the land that had been owned by their ancestors since Revolutionary days. The steep slopes of the Tennessee Smokies—the first West—were settled by pioneers who landed at Carolina ports and on their trek westward scaled the highest mountains in eastern America. Having accomplished this feat, many settled in the upper coves and valleys where they remained and were content to breathe the pure mountain air, to drink the clear, cold water bubbling up from innumerable springs, to fish in the mountain streams, to hunt deer, bear, wild turkey and grouse in the mountain fastnesses, and to cultivate little clearings. Here they were lords of their domains and masters of their souls.

"The park won't do me nor my children any good," said one mountain man. "They tell me I can't break a twig nor pull a flower atter thar's a park. Nor can I fish for trout or kill a boomer on land owned by pap and grandpap and his pap before him. And thar'll be a lot of strangers comin' in here in their automobiles an' larnin' my children a lot o' truck that won't do 'em a mite o' good. I tell ye I'm agin the park."

On the other hand, there is the farmer who, after years of small returns for much labor, declared, "I'm burnt out on this hillside farmin'." And when he had climbed to the top

of a high ridge which commanded a view of hills and mountains crowding against the feet of even higher mountains, he declared reflectively: "Well, a park's about all this land's fit for."

Then there is the old couple whose children have married and gone, except one married daughter and her man. They are pleased about the park. The old man has sold his land "to the park" with the understanding that he can live there for the remainder of his life. He is in the enviable

position of eating his cake and having it too. And the daughter's husband expects to get a job as fire guard, patrolling and protecting what is now government property.

Land-poor mountain farmers who sold and bought valley farms nearer the larger cities have expressed themselves as delighted with the change. "I've got a farm now I can plow; no more hoein'. I can raise more an' get better prices. 'Bout all we raised up in the mountains was what we et ourselves; what little was left wasn't worth haulin'."

The isolation which for centuries has marked the Great Smokies and the people who live on the steep slopes has gradually changed, and there will be still greater changes within the next few years, the greatest being in the mountain

people. Some of these changes are to be regretted. My mountain cottage, once pleasantly remote, now looks down upon a growing settlement of small, box houses set close together with small kitchen gardens in the rear and perhaps a field beyond for pasturage for the cow. The small farmer has exchanged his mountain holdings for this village house and lot. Others of my good mountain neighbors have moved to near-by counties, and their children will be valley people. How much longer will I hear the rich old Irish words, like "fornenst" and old forms found in Chaucer, as "holpt" and "beastes" and the sturdy Anglo-Saxon "hit"?

Though the old words, the old manners and customs are passing, the mountains, the oldest in the world, show no signs of change.

They have reached the calm serenity of old age. So high are they piled, so deeply cut are the valleys, so bold and rugged the moulding of the precipitous sides, that real change is not possible in one generation, and even the trail of the lumberman is only a scar that lavish Nature soon covers in this land of many waters.

A. B. Cammerer, assistant director of the National Parks Service, who has been the Interior Department's representative in surveying the boundary lines for the park area, and who is thoroughly acquainted with the individual members composing the present National Parks system is perhaps better acquainted with the outstanding scenic qualities of the Great Smokies through personal inspection than any other govern-



Smoky Mountain "folks" whose ancestors cleared away enough timber for a mountain farm before the Revolutionary War. Many of these hardy mountaineers did not wish to sell their little "patch" of ground at any price



A primitive fence and typical group of mountain folk, on Gregory Bald, 4,950 feet high

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The only way into Cade's Cove—which is completely surrounded by mountains—from the Knoxville-Cade's Cove Highway. The vista here is one of arresting beauty—one of the most gorgeous in the new Park

ment official. The romantic beauty of the Great Smoky Mountains National Park, he recently said, will lie in its wonderful mountains, valleys and streams, and especially the flora, unsurpassed anywhere in America.

"It has a particularly romantic appeal to those who love the great outdoors," he declared. "The wild life has pretty well disappeared because of hunting, and one of the chief duties of the National Park Service will be to protect thoroughly what little wild life is left, and re-stock it with a fresh supply of bears and deer that formerly were so plentiful."

And Colonel Glenn S. Smith, secretary of the Southern Appalachian National Park Commission, says: "The public generally has the impression that it is necessary to go to the National Parks of the West to view lofty peaks. Few realize that in the Great Smoky Mountains National Park peaks rise more than one mile above the surrounding country and compare favorably with the peaks of the western parks in height and beauty."

Where is this new National Park? How can it be reached? What is there to see and to do?

The Great Smoky Mountains mark the boundary between Tennessee and North Carolina for more than sixty miles. They are the highest mountains east of the Rockies, the climax of the entire Appalachian system. They can be reached

from Knoxville, Tennessee, on the north and west, from Asheville, North Carolina, on the east, Murphy on the south, with Bryson City, North Carolina and Gatlinburg, Tennessee, the actual gateways.

First of all, visitors will see good, hard-surfaced roads built through a scenic wonderland to the very heart of the long Smoky range. Here is scenery unexcelled, ranging from pastoral valleys dotted with farmhouses, or mountain cabins clinging precariously to steep hillsides, to vast vistas of mountain range, a veritable wilderness of mountains, so numerous and so massed and tangled that even members of the United States Geological Survey who have been busy the past two years surveying and re-mapping this hitherto almost inaccessible region, found difficulty in determining where one mountain ended and another began.

Among the things to do are mountain climbing, hiking, horseback riding, fishing, motoring, and swimming. These may be enjoyed as mere amusement, or as a means to some definite end. If one is a scientist, and many visit this area every year, one merely has to choose what branch of biology or what phase of geology he desires to pursue in this vast outdoors museum. The scientists discovered this region a few centuries after De Soto. Michaux, the French botanist, in 1793, wrote glowingly of the wealth of azaleas and rhododendrons he found in this region. And John Muir in 1867

wrote of the "showy flowers covering most of the ground, of cool, clear brooks crossed every half mile or so, of the many rapid streams flowing in beautiful, flowered canons embosomed in dense woods, of the long narrow valleys of the mountain sides, all well watered and nobly adorned with oaks, magnolias, laurels, azaleas, asters, ferns and mosses."

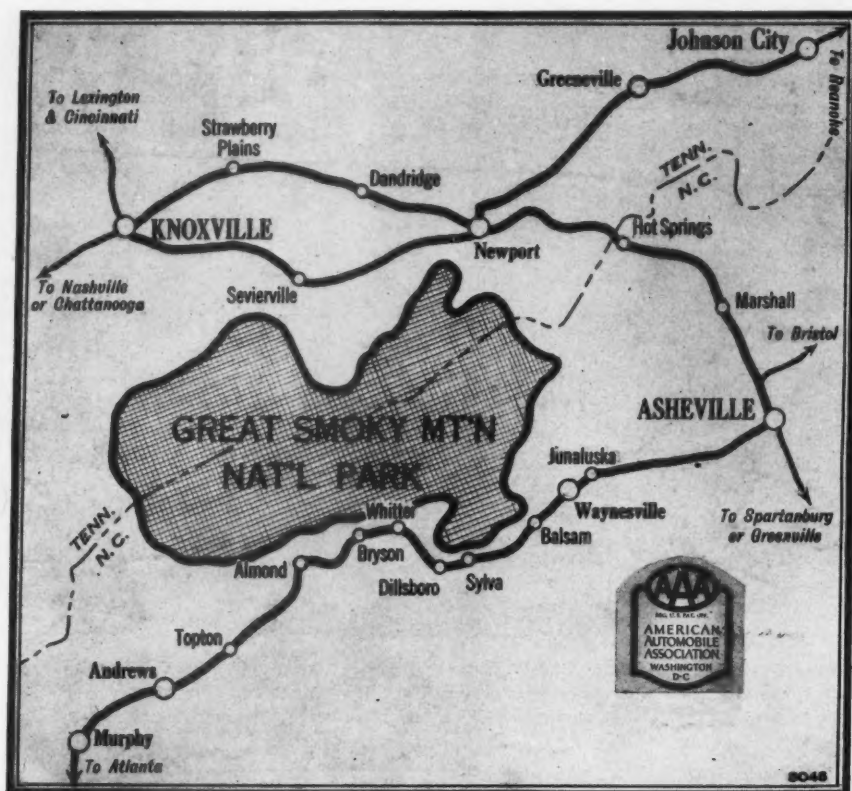
In the spring of 1928, Dr. Pepoon, a botanist from Chicago, who came to the Great Smokies hoping to find five hundred botanical specimens during the Easter vacation, surprised himself and others by identifying five hundred and thirteen in five days. Gray of hair but young in enthusiasm Dr. Pepoon remarked on leaving, "Usually one finds

about all the specimens there are the first few days, and then only an occasional new one, but I averaged almost a hundred a day, and judging from what I found this week I should say there ought to be close onto twenty-five hundred specimens here."

The geologists, too, took an early interest in the Great Smokies. Professor Guyot, of Princeton, for whom one of the highest peaks in the Great Smoky Range was named, spent the summer of 1858 and subsequent summers studying the region. He named Mount Le Conte for his friend, Joseph Le Conte, American geologist, born in Georgia, studied at Harvard under Agassiz, and spent the later years of his life at the University of California as professor of natural history. One may turn to Le Conte's "Elements of Geology" to learn the fascinating geological history of this region. Elisha Mitchell lost his life in order to prove that the peak in North Carolina which now bears his name was higher than Clingman's Dome on the Tennessee-Carolina line. Latest figures available from the Geological Survey show the following altitudes: Mount Mitchell, 6,684 feet above sea level;

Clingman's Dome, 6,642 feet; Mount Guyot, 6,621 feet, and Mount Le Conte, 6,593 feet. It is estimated that within the boundaries of the Great Smoky Mountains National Park there are a number of peaks that reach 6,000 feet, some of them still unnamed and unexplored. Today one

may ascend Mount Mitchell by automobile. In fact, much of the new park may be seen from an automobile. The one-hundred-mile scenic loop from Knoxville takes the visitor up the gorge of Little River across Sugarland Mountain, down the Gatlinburg Valley, past the Pi Beta Phi settlement school and various handicraft shops, down the gorge of Little Pigeon and back to Knoxville through valley and farm



Main highways from every section of the country lead to the Great Smokies. From Knoxville the One-Hundred-Mile Scenic Loop traverses the Northwestern section of the Park

lands. One may stop for a lunch of fried chicken or country ham, mountain honey and hot biscuits. A visit to the home of the women who weave old coverlets and fine linens, and the men who make baskets and chairs and even beds and dressers of walnut, chestnut and cherry, is an adventure. From Knoxville one may also motor to Cade's Cove via Maryville and Kinzell Springs, crossing two spurs of Rich Mountain.

Le Conte and Gregory Bald were the two outstanding peaks to visit, for two reasons: for their accessibility, and second, for the extensive views to be obtained, which included the entire length and breadth of the park area. From the upper end of Cade's Cove the ascent of Gregory Bald is made. If you are a poor hiker but can stick on a horse or a mule as he carefully picks his way up the mountain trail through a beautiful open forest, then you can comfortably make the journey to the top of Gregory on the state line and back to Knoxville all in a single day. If you are a good hiker, the eight-mile trip up and back, spending the night at a farmhouse in the cove, will well repay you.

The trip to Le Conte is usually (Continuing on page 190)

The Guardian of the White Pines

By WILLARD B. GILLETTE



ONE summer afternoon while I was sitting on the back porch of my house high in the pines, I heard the sound of a bright tattoo played by a bird upon the trunk of some venerable tree. The tap-tap-tap of his bill against the wood was punctuated suddenly with a pert, triumphant note which informed me beyond doubt that the invisible drummer was a white-breasted nuthatch.

I soon located him on the bole of one of my largest pines, a proud tree, three feet in diameter with a limb spread of more than forty feet. Ordinarily I would have paid him little attention, for he is an old friend and I know his habits well; but I noticed that his acrobatic performances—which are char-

acteristic—were being performed around a central spot on the trunk. The bird moved in a circle, then stopped to listen, his head cocked comically on one side. Suddenly he began to peck away vigorously as if trying to dislodge a piece of bark. Curious to know what he was after, I watched him carefully. He continued his maneuvers for a couple of minutes, then made a hard drive with his beak and began a fierce tug-of-war with some unseen prey. A terrific yank finally brought it out far enough for me to see that it was a white-pine borer. This my nuthatch quickly subdued and whisked away, presumably to his young. His performance inspired the painting shown on the cover of this magazine.

After this graphic demonstration of how wild birds protect our valuable trees, a number of questions flashed through my mind. One was: "Could I have known that the borer was there, so that I could have attempted to destroy it myself?" The answer was easy. I most certainly could not. I have heard this insect boring on dead trees, sometimes from a distance of approximately twenty feet, because of the resonant condition of the wood; but never have I been able to hear them at work on living, healthy trees.

The damage this borer causes is very deadly. And man is practically helpless in the battle against it. Recently I had over thirty white pine trees cut down in a grove of several acres. These trees averaged seven inches in diameter. When the trunks were sawed into two-foot lengths and split, from one to five borers were found in nearly every piece and each was tunneled in every direction from end to end.

Facts such as these prove that our wild birds are very necessary to us; yet in spite of the good they do, they are being allowed to decrease in numbers every year. I have cited here only one instance of a bird protector—the story of the dimin-

utive guardian of the white pines—but there is scarcely a tree in nature's garden that does not have a particular insect enemy which, in turn, is preyed upon by one or more of our wild birds.

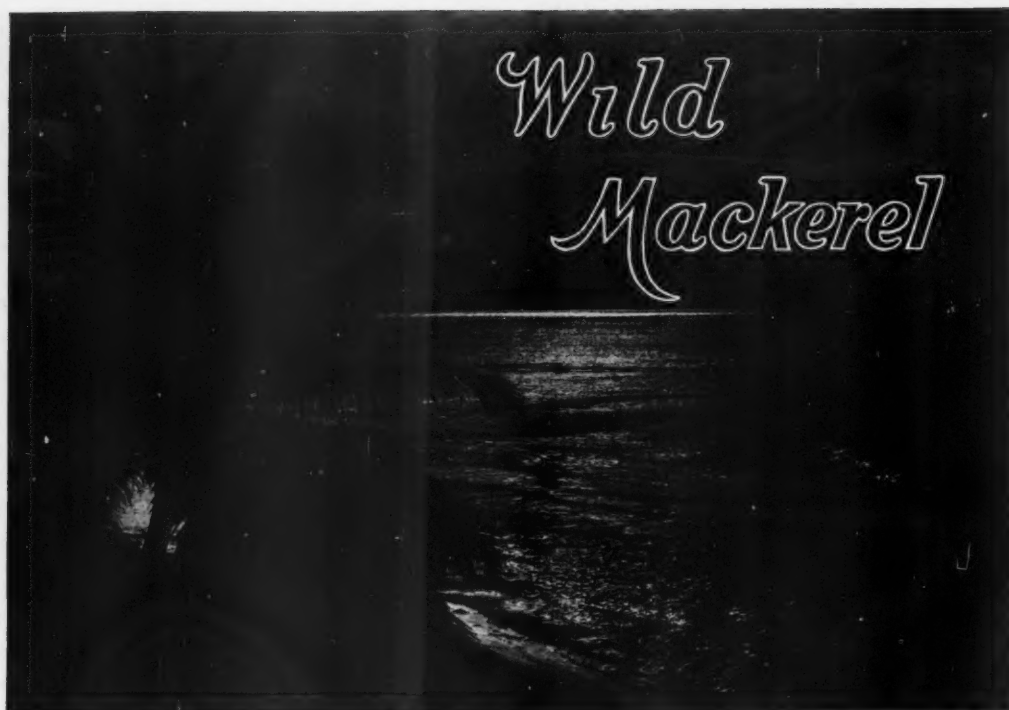
My friend the nuthatch is often called a "sapsucker" by uninformed persons, and I take this opportunity to come to his defense with the statement that the appellation is unqualified slander. The true sapsucker is another bird, entirely different in appearance and habits, that damages trees by puncturing the bark with large holes and drinking the sap. The same misnomer is often applied to the hairy and downy woodpeckers also, but none of these birds cause injury to trees. The nuthatch, particularly, does no known harm to man or plant, but a great deal of good. He can be seen creeping over the trunks of trees for hours at a stretch, preying upon the insects that hide away in the bark and branches. More than half of his menu is made up of insects such as beetles, moths, caterpillars, ants and wasps; and the rest of his food consists of vegetable matter such as acorns, and other large, soft, soft-shelled seeds, and grain, mostly waste corn. To be sure he eats an occasional lady bird, which science classifies among the beneficial insects, but surely he could not be expected to recognize one harmless species among the myriads that do damage to trees and crops.

As for personality, few birds possess ways more winning. One of his most engaging traits is his friendly curiosity, described so charmingly by the naturalist, George Gladden.

"Stand or sit motionless near the base of a tree in which the bird is working and he is almost certain to come hitching down the trunk, head foremost, to gaze squarely into your face with his beady little black eyes and inquire politely as to your health and whether all is as it should be with you. If you inform him quietly that you are very well and quite content with your lot (being careful meanwhile to make no movement of any kind), he will express his satisfaction courteously, apologize for being so tremendously busy, and whisk away to the next tree."

The Florida white-breasted nuthatch (*Sitta carolinensis atkinsi*) is found in Florida, as its name suggests, and also along the Gulf coast as far as Mississippi. The slender-billed nuthatch (*Sitta carolinensis aculeata*) frequents the Pacific coast from British Columbia to northern Lower California, and the Rocky Mountain, or Nelson's nuthatch (*Sitta carolinensis nelsoni*) that lives in the mountainous sections of the western United States, British Columbia and northern Mexico.

Other species include the red-breasted nuthatch (*Sitta canadensis Linnaeus*), somewhat smaller than the white-breasted variety that passes most of its time in Canadian forests, and the brown-headed nuthatch (*Sitta pusilla Latham*), found in the coast pine belt of southeastern United States from southern Maryland to Florida and eastern Texas.



The Salt-Water Equivalent to the Fresh-Water Bass

By ERLE KAUFFMAN

NIGHT. A moist gloom that was heavy with the salty tang of the magical Gulf. A haunting stillness that brought superstition surging to the surface and caused us to draw our light garments closer about us. A gnawing desire to go into the small cabin of the boat, at least until the light of dawn might discover unto us the treacherous reefs along the invisible line of the Florida coast.

We were off Tampa Bay, in the Gulf of Mexico, and the lights of St. Petersburg winked at us like minute points of fire; off the heron roosting grounds that made the eastern shoals of the Gulf a sort of sanctuary for these great ungainly birds; beyond the shallow trout retreats and inside the churning tarpon lairs.

"Off to the left is the first bird roost," said the skipper. "We should strike there about dawn."

I peered through the dark night, but only the glittering lights of St. Petersburg and the beacon light off Pass-a-grille were visible to me.

"Like black velvet," I shud-

dered. "Can't see a thing. Ugh! I don't like these black nights."

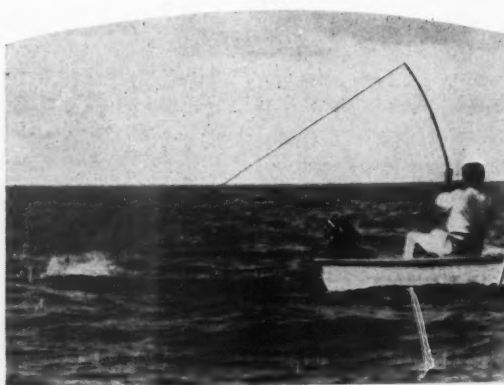
The skipper snorted his disgust. "That's because you're perch-minded—still an inland fisherman."

"I'll confess that on old Broad Run up in Virginia we don't go looking for fish with lanterns," I said. "I can't see, though, what my fishing has to do with my urgent and unconquerable yearning for light."

My host, who had been smoking silently beside me, interrupted.

"What the skipper means is that you of the inland clan follow a haphazard, futile nomadism, an endless search for trout rapids and dark bass pools. You have no time for meditation. With us it is different. We cruise away the night in anticipation of our catch, fish during the hour of dawn, and cruise the rest of the day to consider our good fortune. We achieve a glorious fullness of fishing—we follow the true instincts of the fisherman."

"You are inextricably in-



Swhoosh!—wild mackerel torpedoed through the water

volved in illusion, sir—or ignorance," I replied hotly. "Where is there greater meditation than around a wilderness campfire, either before or after the catch? Where is there greater fellowship? There is an outpouring of sporting instincts when the forest is at your back that can never be known in this black gloom. Ugh! It makes my skin creep." The fourth member of our party, also a veteran of Gulf fishing, laid a restraining hand on my shoulder. "It's all in the point of view, gentlemen. After all, none of us go fishing to meditate—not quite."

The skipper, puffing heavily on his pipe, grinned down at me. "You'll forget about this darkness and your campfires at dawn, son," he said. "You'll be up against the wild fellows then—not perch."

"Even perch have their lure," I protested, "and for relentless battle I'll stack the lightning-like thrusts of the fresh-water black bass against your heavy artillery. Pound for pound, I'll wager there is nothing in your green, salty water that will outgame this stout gladiator of the inland streams."

"I'll take that wager," promptly spoke up the skipper. "At dawn, when the tide is right, I'll introduce you to the salt-water equivalent to the fresh-water bass. Down here we call him wild mackerel."

"Mackerel!" I repeated in awe. "You mean you will stack a mackerel, pound for pound, against a black bass? I'll double that wager—"

"Easy there," put in my host. "It is said these mackerel never allow a bait to touch water—they're rather good at it."

I ignored this thrust, searching around in my mind for a bit of light. The mackerel, I knew, was of the Scombridae family, a swift, carnivorous, pelagic fish with a great deal of energy. The giants of the family—the albacores, bonitos and tunnies—were ocean species and were seldom found near the coast. There was another, however, the runt of the family, known along the Florida and South Atlantic coast as the chub mackerel. It rarely exceeded twenty inches in length and rode the tide in great schools. This was the fish that was to be thrown into

the ring with the black bass—he of the he-man instincts.

"I'll double that wager," I informed the skipper, smiling knowingly.

The sun peeped over the haze of the low coast line, throwing diffused rays over Coffeepot Bay into the Gulf waters. Great herons dived along the bird roosts, and a gentle breeze rolled a tiny wave toward the coast line as the skipper eased his boat over the straits. Off in the distance a Coast Guard cutter crawled along in the shadow of its own smoke while a great tramp steamer churned away from the steel of Port Tampa's waterfront.

The skipper lowered his anchor with native calm, and we clambered into the small outboard. The tide carried the smaller boat toward the bird roost. Five minutes passed—ten—fifteen. A swift fish hawk went driving past, while gulls sailed overhead in graceful, sweeping glides. From the bird roost herons dropped in sharp, steep lines for the minnows that turned up the water at its base like an approaching squall.

"Let 'er go, gentlemen!" suddenly cried the skipper, reaching for his bait. "But throw away the one-pounders and beware of the stingerees."

We converged on the widely heralded equivalent to the black bass with humming lines. My host was the first to cast—a short throw of less than twenty feet off port. He turned to grin his triumph—

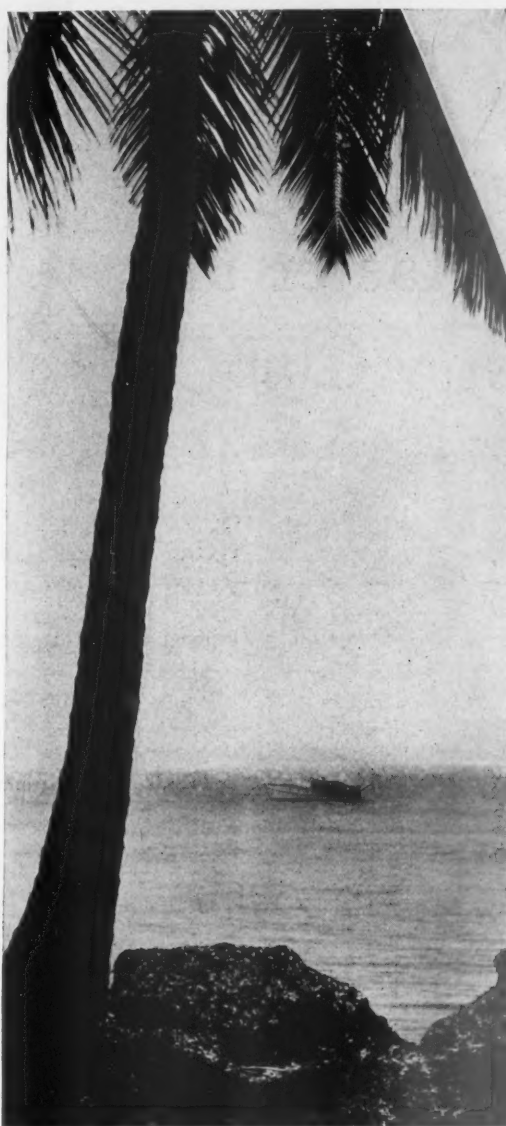
Wham! His ten-foot cane pole jumped from his hands as though it were loaded with dynamite, and a miniature torpedo shrieked through the water in a circling course. We paused to watch.

"Take a good look!" the skipper shouted in my ear. "That's my baby! Watch him run!"

Good fisherman that he was, my host recovered and set himself for the task of taming this wild mackerel. But the old fellow out-stepped him. With hanging head, he dragged in his empty line.

"Eat him up, fish!" roared the skipper as he flicked out his line a good fifty-five feet off the bow. "Whoopee! Go get him, mackerel!"

(Continuing on page 166)



The sun peeped over the haze of the low coast line

FOREST PEOPLE

A Station Master and A Forestry Club

By SANFORD B. HUNT



Among the Redwoods

ROBERT B. DANNENBERG is station agent for the Southern Pacific Railway at the little town of Felton, Santa Cruz County, California. He sells tickets, takes care of the baggage and freight, does much telephoning and telegraphing to train dispatchers, and keeps the station grounds looking neat. Although he goes to work at seven in the morning and calls it a day when the seven-ten train rolls out of the station at night, he finds time to add to the beauty of his little home by caring for his shade and fruit trees and planting more flowers and shrubs.

He is also deeply interested in the growth of young people, and three years ago organized an agricultural club for Felton's boys and girls. After a year of watching pigs grow and raising chickens, lambs, potatoes, and beans, the club members at the suggestion of Mr. Dannenberg decided they would like to raise trees. The parents of some of the children frowned upon this enterprise, for great forests of redwood trees blanketed the hills surrounding Felton. Why grow trees when you lived in a world of redwoods, they reasoned? But Mr. Dannenberg and the boys and girls argued that

the trees might not be there always, and even so, it would be interesting to know more about trees and to watch them grow. At least they would let everyone know they liked them on the hills about Felton.

So Roberta, Mr. Dannenberg's thirteen-year-old daughter, Maybelle Ley, Billy Beaver, Donald Ley, and the ten other members joined the forestry division of the Four-H Agricultural Club of the Santa Cruz County Farm Bureau.

Mr. Dannenberg then led his boys and girls into the woods and picked redwood cones—hundreds of them—and brought them home in sacks. They were dried and the seeds extracted, and Mr. Dannenberg supervised their planting in seed beds in club members' home yards. Soon the seeds sprouted and there were many small trees, insignificant little things, but growing fast.

Now the Felton Forestry Club has growing in home plots more than six thousand redwood, fir, pine, and cedar trees. Fourteen children and twenty-eight parents know many things about trees that they did not know before. The children know when cones are ripe, how and when



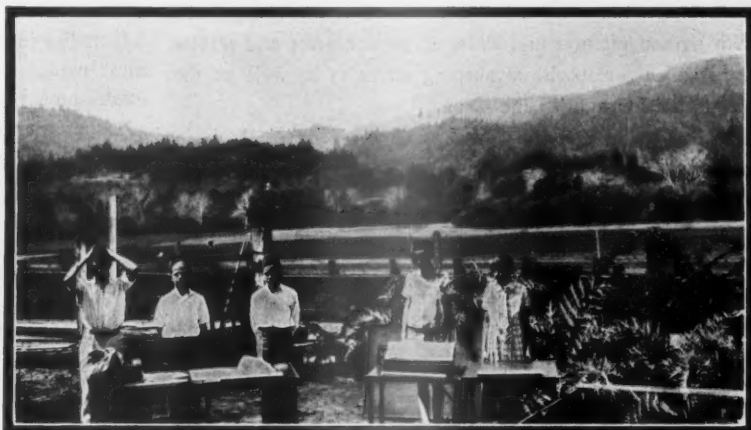
ROBERT B. DANNENBERG

The California station master who has developed a forest-wise consciousness among the children of his locality

to gather them, and how to separate the seed from the cones. They know how to screen for grading, how many seeds to plant to the square foot for a given percentage of production, and how to take care of the domesticated wildlings when they stick their heads out of the ground. Too, they know better the great value of trees and want them around, not only for themselves, but for their children, their grandchildren, and great-grandchildren.

They have, of course, expert advice. This has come from the forester in charge of extension work at the University of California, Professor Woodbridge Metcalf. Too, the county agricultural agent, or farm advisor, is always ready to give his services.

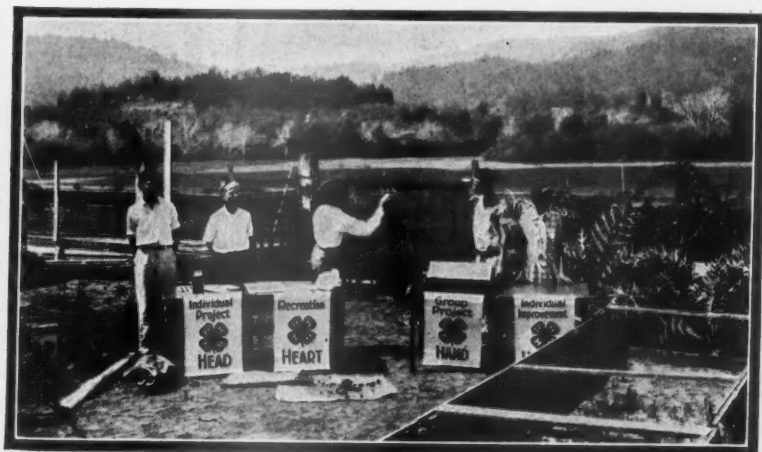
Nurserymen, landscape gardeners, and neighbors who want to grow trees at their homes have offered the club prices ranging from twenty to fifty dollars a thousand for the trees. A few have been sold, but most of the children have decided to wait another year before disposing of the seedlings. They have devised many interesting schemes to sell them. Some are going to put the little trees in



The Demonstration Team of the Felton Forestry Club all set for a demonstration of seed selection and planting



They plant their seed in framed plots, four feet wide and sixteen feet long. These are one-year Douglas fir and redwood seedlings



There are fourteen boys and girls in this Felton Forestry Club—all members of the Four-H Clubs of the Santa Cruz County Farm Bureau

pots and sell them to tourists along the highway; some are to be sold at Christmas for living Christmas trees. A greater part of them, however, will be bought by the Farm Bureau forestry committee of the county for its demonstration plots.

The children must not have all the credit for forestry work in Santa Cruz County, however. The Farm Bureau

members are interested in the preservation and growth of trees. So are the county officials; and slowly but surely interest is spreading in all walks of life. Two years ago the County Farm Bureau appointed a committee which went into action with a tour of the forests. Ranchers, bankers, lumbermen, and sportsmen were shown the beauty of the county's woodland and some of its devastation. This tour has become an annual affair.

A lumber company presented the club with six acres of cut-over land for replanting and the maintenance of a demonstration tract. A land promoter gave five acres more and another tract was begun. Farmers and their sons, high-school boys and others put mattocks over their shoulders and went to these tracts and planted

more than eight thousand trees. Lectures are being given with motion pictures and slides at farm centers and service clubs and a forest-wise awakening seems to be well on the way in the county of Santa Cruz.

The forestry program for the county is broad. It is in general a conservation plan with all of the county agencies cooperating. Detailed attention under the advice of the extension forester is given to forest and watershed protection in relation to fire, insects, and disease; to reforestation; to recreational development; to promotion of forestry among agricultural clubs; to highway tree planting, and care and

utilization of forest products, particularly on the farm. Much has been accomplished in all of these divisions, but most notable has been the advancement in clubs and the establishment of reforestation tracts.

Other counties of California are promoting through their agricultural and forestry clubs this forestry work, but Santa Cruz was the first county in the state to take up the work and is still the leader.

It is intensely interesting, all of it, but nothing seems quite as inspiring as to see Robert Dannenberg in a backyard nursery plot, or deep in the forest, surrounded by fourteen boys and girls who love and believe in him and trees.

The McGuffey Elms

By MILDRED G. DURBIN

"IF ANYONE is looking for trouble in this town, just let him harm one of those trees." The speaker was Clark Williams, president of the Alumni Association of Ohio University, Athens, Ohio. We sat in his office looking across the campus to a row of seventeen beautiful elm trees that border the opposite side. They were set there in 1842 by Dr. William H. McGuffey, the compiler of the McGuffey Readers.

From a pioneer attorney in Athens I learned more of the history of the tall, graceful trees. Ohio University was the first institution for higher education in the Northwest Territory, the great tract which was divided into the States of Ohio, Indiana, Illinois, Michigan, and Wisconsin. The first legislation for the university was enacted in 1799, and work on the buildings was begun in 1804, the year after the Buckeye State was admitted into the Union.

Ohio was almost covered with a great forest at that time. This forest land sold for \$1.50 an acre. Only cleared land was valuable. All trees and bushes were removed from four acres for the little university in the wilderness.

This tract was soon put to another use. In those days of danger from Indians and foreign invasion alike, every able-

bodied man was called for military drill on what was known as muster days. Men in and around Athens drilled on the four-acre plot and it was soon called "the parade," a name that was retained for many years after muster days ceased to exist. In 1839 Dr. William H. McGuffey came to Ohio University as president. Already boys and girls

in every little log or brick school-house in the Middle West were studying his readers. In 1842 he set out the row of elms along the edge of the treeless campus, opposite the university buildings. Soon thereafter farmers appeared in town with creaking ox carts loaded with carefully selected saplings. They were the little trees from which grew the beautiful oaks, maples, beeches, buckeyes, and sycamores that you may seen on the campus today. What an influence Dr. McGuffey must have had over the farmers of the surrounding country to have persuaded them to transplant trees, when they were struggling to clear forests that still covered most of the hills of Ohio!

Thus, the man whose lessons have taught thousands the value of honesty, thrift and sobriety, became the Middle West's first teacher of reforestation.



Cullum's Studio.

The elm border set out in 1842 on the campus of Ohio University—a monument to the compiler of the McGuffey Readers

Fire Lanes and Intensive Patrol

Western Lumbermen Find Greater and Cheaper Protection in New Method

By E. T. ALLEN

Illustrations from Fruit Growers Supply Operation, California

MOST people have seen pictures, at least, of cleared firelines separating the compartments of orderly European forests. During more than thirty years in which public and private agencies in our country have been developing forest-protection methods to combat a fire hazard greater than is common in Europe, we have taken small interest in this "strip and compartment" method. At first it seemed impractically expensive, so we turned to other devices, with more or less distinction between fire originating in the forest and the hazard created by inflammable, lumbering débris.

Today there is a growing conviction that this process has tended to over-emphasize such distinction and, as we have become increasingly willing to spend money for both objects, to confuse their relation and misdirect the total expenditure. One of the most conspicuous and interesting examples of this conviction is the recent growth of the once-dismissed fire-break system; not expecting the "break" to stop fire, but to give fire-fighters necessary vantage ground; now considered by many Pacific Coast foresters and lumbermen to promise, in several forest types, the best solution of both slashing hazard and permanent protection problems.

In addition to the development of technical method along the two lines mentioned as having tended to get out of relation, was, of course, a straddling of both by attempt of legislation and regulation, state or federal, to afford a

workable relation. This, incapable of rising higher than its source in much difference of interest, opinion and conditions naturally and perhaps not improperly sought to meet majority acceptance by making blanket rules believed at the time to promise the most general application.

Such blanket rules could not possibly fit all conditions. Nevertheless they tended to become standardized, partly as a habit of thought and partly because it was difficult to determine or control exceptions.

Examples are the broadcast slash-burning policy that fitted Pacific Northwest logging when it was mostly in the Douglas fir type, and the piling and burning policy standardized by the Forest Service for Black Hills and Rocky Mountain pine types. These extended their influence, by no means always suitably but with no other distinct policies recognized, until they frequently collided, particularly in regions like northern Idaho and California where Rocky Mountain and Pacific Coast forest types meet to produce every variety of conditions. The same could be said of methods that became to some extent doctrinal in other parts of the United States—lopping and scattering, for example.

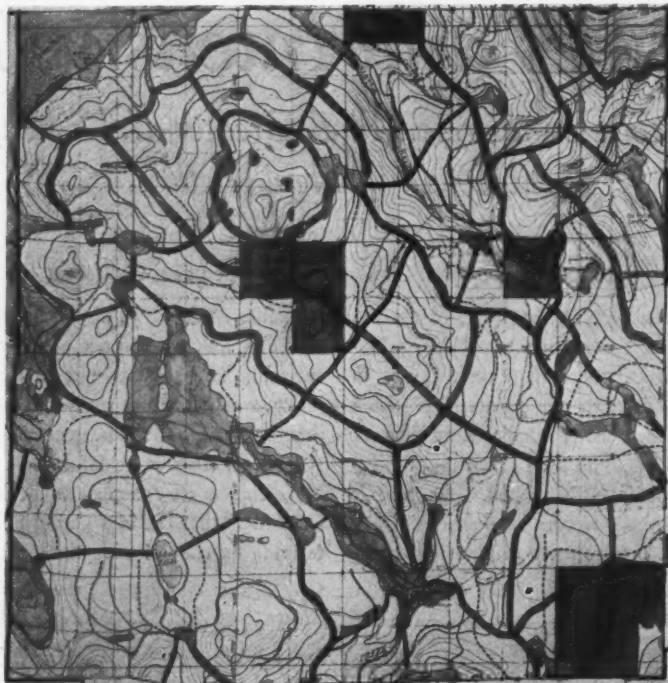
In other words, there grew up doctrines, supported by tradition as representing true forestry practice, to which a thousand immensely varying operation conditions were expected to conform, regardless of exact suitability. The premium was placed upon their conformity,



With this tractor and special trenching plow the mineral soil is exposed on each side of a fire lane

right or wrong; seldom upon any attempt to develop more logical, individual alternatives. The latter was partly heretical, partly impossible to appraise and approve by any recognized forestry authority because of lack of force, facilities and information and because also of the danger considered to lie in discrimination.

It is obvious, however, that a more constructive ideal would reverse the situation and have a thousand differing operations seeking with all possible ingenuity and sincerity to develop the best individual practice, and with their experiments, and especially their results, given due credit by public authorities. Probably nobody ever denied this; the difficulty lay in appraisal of conditional fact and of sincerity. The notable change of situation, promising so much for American forestry, is that at last it is being reversed and we have entered the era of intelligent individual forestry, wherein progressive private operators are proposing plans embodying the best solution of their local problems that they can devise with technical help that they employ, and finding public forestry authorities largely ready to endorse such effort. This is bringing about a new view among such operators with spreading influence on their colleagues and a value which



Fire lanes and natural barriers break up the forest into compartments of a square mile or less in the development of this township fire-lane plan

become that the slash itself, rather than the hazard presented, was the bugbear. Nothing served but the annihilation of slash or brush, at whatever cost. At the same time, our professional orthodoxy demanded 100 per cent reforestation on 100 per cent of forest land—cost what it might. How else could the plant pay highest dividends?

The newer thought, gaining ground among foresters as well as among lumbermen, is more expressible thus: What practice will, in every special case, with the best combination of economy and effectiveness, carry logged lands back to normalcy? When slash has rotted and new growth has restored forest conditions, what practice looks farther ahead



Here a satisfactory fire lane has been established by clearing away the forest growth and slash for fifty feet out from the center of a railroad grade

to the carrying of the new crop through to its harvest after occasional terrifying fire years.

This problem presents two sets of factors. One is original investment cost—for example, say sixty cents to a dollar a thousand feet, or averaging, perhaps, \$13 an acre for piling and burning—which investment in lands not capable of high return is a total loss if normal conditions do return, yet has never produced absolute safety at any time. The other extreme is that such an investment, placed in six per cent securities, affords

seventy-eight cents an acre for high-pressure protection worth more, while leaving the \$13 intact at the end of the period of return to normalcy.

There is every compromise between these factors—a compromise which is now engaging attention, with a growing belief that it should take the form of a moderate investment in first-place safeguarding of the land, with a corresponding



This fifty-foot fire lane has been built over the mountain to serve as a vantage from which to stop a fire or, when necessary, from which to set a back fire

continuance and greater annual expenditure for high-pressure protection methods. This protection looks ahead not only through the period of slash hazard, but also through the entire period during which the second crop must meet every danger-year until it is harvested.

This newer conception is not developing new methods so much as return to the once-discarded methods of the Old

World, namely, "strip and compartment." The Shevlin-Hixon, Brooks-Scanlon and Weyerhaeuser lumber companies of Oregon, and the Potlatch and Boise-Payette lumber companies of Idaho, are among conspicuous examples of progressive concerns that, engaging technical advice and the approval of state and federal authorities, are seeking to rise superior to blanket rules. They are seeking to train their operation superintendents to develop such methods as are most effective, as well as most economical, to accomplish the protection of cut-over lands while



Intensive protection combined with open fire lanes like this can be maintained for about one-third the cost of piling and burning the brush

looking ahead to the protection and harvesting of new crops. They are steadily falling into line, with professional approval, in the direction of high-powered, enduring protection organization, with less emphasis on original slash disposal, and with the compromise, largely some form of the fire-lane and compartment system, which offers the highest reproduction possibilities consistent with permanent safety.

One of the most interesting examples of all, however, because it represents the excursion of unprejudiced laymen into forestry, is probably that of the Fruit Growers Supply Company, of California. Beside an operation already started at Hilts, California, they pooled a tremendous forestland investment in Lassen County, California, with a purchase from the Forest Service of timber to give them a seventy-year operation, perhaps even then repeatable.

They asked the Forest Service and the state to cooperate in trying out a new system applying jointly to their own and government lands. Both public agencies were glad to respond to such a constructive proposal. It is a conspicuous example of successful application of the Clarke-McNary law principle of cooperation by private, state, and federal agencies to solve perplexing problems.

The immense territory comprised by the Fruit Growers' own lands and National Forest lands was jointly calculated as to its seventy-year productivity. Then was presented an entirely new protection system, based on strip and compartment with high-powered, annual protection under which the company agreed to maintain elaborate patrol, lookouts, and fire equipment after cleaning fire lanes surrounding areas of not over 100 acres of undisturbed slash and keeping these lanes clean indefinitely. Each lane is 100 feet wide, not only kept clean but with each edge dragged to mineral soil by a specially-devised plow and a caterpillar tractor. Every compartment is numbered with painted signs so there is no confusion getting men on the ground quickly.

This system has met four fire years, good and bad, even the severe 1929 season, with negligible loss of timber or reforestation. It has cost less than half as much as complete piling and burning, with wholly satisfactory results and with the area constantly getting in far better condition to meet future emergencies when the new forest is established. Let the company's logging superintendent, Herman Baumann, in his own words tell the story of what he calls "fire lanes with intensive patrol."

"We awoke to the fact that we were spending large sums for piling and burning without tangible results. There was no protection the first year after logging, because the piles could not be burned during the danger season. Piles are naturally made in openings, so natural lines of defense were lost for some time. Cost being excessive, it prohibits use of other important protection measures. Of vital importance, no protection is insured for the entire new-crop cycle. We were spending \$12 an acre partially to reduce hazard a few years; then to revert to accepted methods of protecting timber lands—not good enough.

"Under the new plan we can maintain elaborate equip-

ment and an intensive force—forester, assistant forester, patrolmen, and lookouts.

"To date approximately 122 miles of fire lanes, 100 feet in width, have been constructed. These lines are cleared of all inflammable material and divide the area into compartments of about 100 acres each. Approximately twenty-seven miles of railroad and main automobile road right-of-way have been fireproofed. In addition seventy-three miles of special roads for fire-protection purposes have been constructed. These roads are mainly old railroad grades with tie-ins built in order to make the area accessible from many angles of approach. Snags have been felled in an area of approximately 17,000 acres. It is planned to fall snags on the entire area, as a safe and sane protection measure. All main Caterpillar skid trails are kept open to serve as primary lines of defense.

"The surprising factor in this whole scheme is the factor of cost. To date approximately \$98,000 has been expended on the project. Computed on a cost-per-acre basis, this amounts to \$4.90 an acre. Complete brush piling and burning amounts to approximately \$12 per acre. For less than one-half we feel that we are getting better protection for the new forest than we could obtain by any other method.

"These costs are on an acreage basis:

"Brush Piling and Burning

"Brush piling	\$7.61
"Snag falling	3.12
"Brush burning	0.72
"Supervision	0.45
"Supplies and equipment	0.10
<hr/>	
"Total	\$12.00

"Fire-Lane Method—Intensive Patrol

"Fire-lane construction	\$2.09
"Right-of-way clearing	0.33
"Special roads	0.14
"Snag disposal	1.96
"Lopping tops	0.05
"Cleaning skid roads	0.02
"Maintenance of fire protection improvements	0.02
"Supervision	0.32
"Supplies and equipment	0.08
<hr/>	
"Total	\$4.90

"These figures do not include the cost of protection under the fire-lane method. This item amounts to approximately ten cents an acre. Comparative costs show that more can be accomplished under the fire-lane method for less expenditure."

Thus we see American forestry progressing in the direction of protection upon which all else depends, through unprejudiced analysis of all methods, old and new, with private and official cooperation, justifying the cooperative principle of the Clarke-McNary Act, which is the national policy.



Little Stories by the Men of the Southern Forestry Educational Project of The American Forestry Association Who are Carrying the Message of Forest Protection to the People of the South

THE Consolidated School at Crystal Springs, Mississippi, with a faculty of forty-five and an enrollment of more than 1,200 children, is said to be the largest consolidated school in the world. Twenty-four large busses bring children to the school from distances of sixteen miles or more.

"When I first went to the school to arrange for a motion picture program and lecture, I realized that it would be necessary to give our program during school hours as the children would have no means of transportation to attend a night program. There were eight large windows in the auditorium which had to be darkened for the motion pictures, and as the seating capacity was not more than seven hundred, we decided to give two programs.

"More than 1,200 children listened attentively to the lecture and witnessed the showing of *Pardners*, the motion picture made by The American Forestry Association. Their interest in the picture was shown by happy exclamations, and the faculty appeared to be as much engrossed as the children. The few patrons who came were amazed at the success of the program and expressed their appreciation of our undertaking. We were urged to return." — EARL TAYLOR, Unit Director, Mississippi.



Negro school children in Florida about to see their first motion picture show.

"At Natural Bridge School, near De Funiak Springs, Florida, an old man about sixty years old approached the truck and read the lettering on the sides.

"Every word painted on that truck is the truth, young

man,' he said finally, referring to the slogan 'Stop Woods Fires—Growing Children Need Growing Trees,' and other brief statements concerning forest protection, 'and I am certainly glad you found our little school out here in the piney woods. You are doin' a great work with your talks and pictures—somethin' that should have been done fifty years ago.'

"I found out that this man was the wealthiest in the community, and the only one whose children had gone through high school and entered college. He told me later that he had always made every effort to keep fire from his land."—W. L. MOORE, Lecturer and Motion Picture Operator, Florida.

"In an audience at a motion picture show at a very small school near Fargo, Georgia, my attention was attracted by a man whose interest in the motion picture *Pardners* was out of the ordinary. His face was familiar and when he had the opportunity he came over and shook hands with me.

"'Reckon you don't remember me, son,' he said, 'but I heard you talk and saw your show about a year ago way over in Echols County.

"'Well, I'm sure glad to see you again, sir,' I told him.

"'And I'm gladder to see you, son. You know, I have been burnin' my woods for more than thirty years, and after listening

to you talk last year I decided that maybe it was wrong to set out fire. Now that I have seen your new picture, *Pardners*, I never expect to fire the woods again.'—JACK THURMOND, Lecturer and Motion Picture Operator, Georgia.



Each komatik was drawn by a team of big, husky Eskimo dogs, ideal for harness work and for hauling a sledge over snowy trails

THE first komatik weighed her brake-spike and skimmed out on her course while three sister craft heaved and tossed and strained at their moorings. As she rounded the first bend The Musher, who commanded the fleet, stood on the afterbeam and threw up his hand. This was my signal and I loosed a snub rope, whereupon the second komatik headed out into the wake of the first.

A heap of camp supplies and equipment stowed amidships and lashed with a pair of snowshoes on top made up the cargo, while I manned the handle bars. It was a serious position for me, for the komatik was a strange craft and the course unfamiliar. Dead ahead the surface was choppy with small drifts which tossed the craft uncomfortably about, and when we tacked to starboard she rolled dangerously. Once out on a tangent, however, she settled to an even runner and, full trace ahead, began to overhaul the craft in front. Hard astern followed the third komatik, manned by The Artist, while the fourth, with The Lady as pilot, brought up the rear.

We were just starting on a journey—a cruise of the great, white,

The Cruise of

By W. DUSTIN

winter woods—and our craft, the komatik of the northern Eskimo, is a sledge in our own tongue. It is doubtful if an Eskimo would have recognized his komatik in the light and graceful sledges which The Musher has evolved from it. The original komatik was low and flat and heavily built, especially designed for travel over flat country and on sea ice, while these modern Yankee komatiks were light, though strong, and could be easily handled or hauled up steep grades. They were equipped with brakes for easing them down hill and with handle bars by which they could be steadied over rough places and guided around turns.

The land of great snows had also supplied our motive power, for each komatik was drawn by a team of big Eskimo dogs. Some of these had been imported from northern Labrador and Greenland and others were raised from these imported animals. The Eskimo dog is ideal for harness work and for hauling a sledge over snowy trails. His breed originated in a land of severe climatic conditions and he has astonishing hardihood as a part of his heritage. He is strongly and



The Lady on her skis

the Komatiks

WHITE

compactly built, and a coarse outer coat sheds the most severe storm while a soft, wooly undercoat conserves the heat generated by his own body. His tail, a jaunty plume, which he carries curled over his back when traveling, provides a covering for his nose and feet when curled up to sleep. His feet, compact like the foot of a cat, are unusually tough, which enables him to travel without great injury over the icy stretches.

A team of five dogs, nicely matched, hauled my komatik. They were attached to the sledge in what is known as the gang hitch—two pairs with a single leader in front. The leader was Okak, light and quick and possessing an intelligence that enabled her to respond readily to such commands as I had succeeded in adding to my vocabulary. Back of her ran Mader and Co-Cyack, while next to the sledge was Cyack and old Yank. Yank was an imported dog, a veteran of the Labrador fur trails. Formerly he had led his team, but with old age slowing him down, he worked back willingly enough next to the sled.

When we first started out I could only cling to the handle bars while my dogs raced along in



Komatiks make ideal craft for navigating the winding ribbons of snowy road or trail, or traveling expanses of ice-locked waterways



The Musher would a-hunting go

the wake of the team ahead. Before long, however, I managed to get my snow legs and to feel more at home on the sledge. I quickly learned how to shift my weight from runner to runner, thus trimming the craft, and how to turn the handle bars so that she would take the curves in graceful swings. Then I awoke to the beauty of the country through which we passed. We were following a main highway, traveling down the narrow valley of the Upper Ammonoosuc River, in northern New Hampshire. It was a glorious late winter morning, the air clear and the sun bright. From our starting point we could see the distant peaks of the Presidential Range, looming clear and sharp over rolling hills.

For perhaps a mile the surface was hard and the going smooth. All we had to do was to let the dogs run and apply the brakes a bit on the down grades to keep the traces from tangling. The driver of a dog team rides on the rear of the sledge, one foot on each runner and one hand grasping each handle bar. The brake, which is a steel spike mounted on a spring board, is located between the runners where it is easily accessible. When we came to a more drifted portion of the road, the sledges ran much harder. Here we could aid by paddling—kicking back with

one foot and thus giving the sledge a push forward. At other times we would jump off and run along behind, relieving the team of our weight altogether. This brought another part of our equipment into play, a light rope, about twenty feet long, one end of which was attached to the gathering ring at the sledge bow. At the other end is a loop through which the driver places one hand, bringing the loop around his wrist, while the surplus rope is gathered in the hand. One of the rules of driving is never to take the hand out of this loop. Then, in case the team should start suddenly and snap the sledge away, the driver will still have something to hang on to.

But this was not to be a cruise of the beaten trails for the dog-drawn komatik, like the canoe, is essentially a craft of the wilderness. Its great advantage is that it can be taken where other modes of conveyance fail. So after a short run down the valley road we swung to the starboard quarter and began bucking the stiff grade of an old logging road.

This ascended rapidly, and we ran along behind the sledges, pushing occasionally on the handle bars to help the dogs with their heavy loads. Upward we climbed, past the last pulp-wood pile, beyond the end of the logging road and out on a trail that had been trodden with snowshoes.

We came into real wilderness when we topped the summit and began to descend a long grade. We could ride here and watch the endless procession of forest trees that marched back past us. Rank upon rank they stood—maples, beeches, birches

and dark, somber evergreens, festooned with nature's own decorations. At last, The Musher, who was still ahead, made a sharp turn and his dogs trotted out onto the smooth surface of a small lake. The beauty of the scene which spread out

before us was overwhelming.

The deep green of the spruces on the shoreline was enhanced by the graceful white trunks of the birches. Farther away the hardwood ridges billowed up to where two snow-capped mountain peaks stood on the skyline. There was no trail here but the snow was not deep and the dogs traveled easily. Across the lake we took to the woods again on a narrow trail. We had not gone far, however, when The Musher's sharp "Har," which is Eskimo for "Whoa," brought the teams to a standstill.

He had stopped at one of the finest camp sites I have ever seen and we lost little time getting shelter tents up. The Musher's was a wall tent, nine feet square, large and roomy, for his was a family camp. The Lady, who piloted the rear komatik, was Mrs. Musher, and Musher, Jr., a sturdy little chap of five years, had taken passage with his father. The Artist and I preferred an open-front shelter tent. The dogs required no shelter whatever, for even in their home corrals, where snug kennels are available, they often sleep in the open by preference.

They fell asleep on the snow while we were making camp. At night they were unhitched from the sledge, but not unharnessed, and each dog fastened, by its own tug, to a small tree. A small depression, trodden in the snow and lined with



Hard astern followed the third komatik, manned by The Artist, while the fourth, with The Lady as pilot, brought up the rear



The Musher and Musher, Jr., at the family camp in the woods. The dogs are stretched out, enjoying a well-deserved rest

boughs, makes an ideal bed. Each dog is then given its allotment of food while the ever present snow is an ideal substitute for drinking water.

Camping in the winter woods, when the mercury is cuddled in the bottom of the tube, is something that must be experienced to be appreciated. Much of its charm is a matter of contrast and comparison. The snug warmth of the tent is wonderfully pleasing when the woods outside are cold and dark and still. The fire casts a fitful light which seems only to accentuate the shadows, and a profound mystery lurks all about. The dim figures of the dogs in the far circle of light; the sigh of the wind that rustles the treetops; the

wilderness to explore on our snowshoes or our ski. There were tracks of wild animals to study and trails to follow; there were fish in the lakes to be caught through the ice. There were rabbits in the swamps and foxes in the woods to be hunted—everything to make it an ideal vacation land.

The Eskimo language bothered us considerably. We couldn't seem to get just the right inflection on the syllables, though they sounded easy enough in the speech of The Musher. The dogs did their best to understand us, but Chippy, the leader of The Artist's team, gave up trying.

We were driving along, single file, and this dog would not lead the team in the trail of the others. The Artist tried



We were off on a cruise by komatik of the great white winter woods, with The Musher as commander of the fleet

sharp snap as the frost cracks a tree or the rolling boom as it rends the ice of the lake and the solemn hoot of an owl.

The lake we had crossed before reaching our camp was the first of a chain of seven now frozen fast in this semi-circular mountain valley, and we had some thrilling experiences driving the dog teams on their surfaces. Here it was not necessary to follow The Musher all the time, so we struck out by ourselves, testing our skill at manipulating the sledges and our knowledge of the Eskimo language which was essential in guiding the dogs. Some of the lakes were connected by narrow thoroughfares while others were separated by short portages—but a portage to a dog-drawn komatik is but a bit of variety. Too, there was the whole great

such commands as he could recall and then shouted to The Musher for instructions.

"Say, 'Ouck'," was the reply.

"Ouck," said The Artist, apparently in correct form, but Chippy gave no sign that she had heard.

Again The Musher spoke the command and again The Artist repeated it, with the same result. When Chippy was ready she swung into line, but not until then.

Once back in the home port, The Artist and I were agreed that this cruise of the komatiks was the best vacation we had ever taken. While we had known the joys of winter camping, the use of the dog team has added to those joys by making it possible to transport a more complete outfit.

House Committee Approves Acquisition Bill

The Clarke Bill (H. R. 5694), authorizing annual appropriations of \$5,000,000 during the fiscal years 1932 to 1941, for the purchase of lands to add to the eastern National Forests, was reported favorably by the House Committee on Agriculture on February 10. The total appropriation of \$50,000,000 will be used to carry on the purchase program of the Weeks Law now being forwarded under the McNary-Woodruff Law.

Who Should Control the Public Domain?

By DR. GEORGE STEWART

Agronomist, Utah State Agricultural College and Experiment Station

THAT the unreserved Public Domain be transferred to the several states was probably not a mature thought. Certainly it is not a definite, clear-cut move towards

conservation. It would probably prove to be exactly the opposite. Sincere and careful analysis shows the evidence to be favorable to federal rather than to state control.

The acute grazing problems that now exist on Public Domain lands have resulted largely from the entire absence of control. Most close students of the question have reached the conclusion that some sort of control is absolutely necessary, if this great national resource is not to be destroyed, or at least largely wasted. Any control whatever would be infinitely superior to none. All constructive leaders, however, are anxious to see that system inaugurated which, in the long run, will bring the greatest beneficial effects to ultimate users and to the nation.

As long as the federal government has supervision of a great resource, the officers of that government are bound by legal duty, and even more fundamentally by moral obligation, to make an honest attempt to conserve that resource in such a manner that it may become the greatest possible force for good in our national welfare. Certain resources are most valuable when they are allowed to become private property. The usefulness of other resources are best preserved and magnified by being retained in public ownership in order that use by private economic enter-

prises may be so controlled as not to pervert, to weaken, or to destroy the major utilities of the resource.

Considered from this angle, it seems that there are five possible methods of disposing of the surface rights of the Public Domain: To leave them as they are, without any form of actual control; to permit them to pass out of government hands into private ownership; to organize a federal leasing system; to turn them over to the separate states to handle as each sees fit; or to retain them in federal ownership and organize a control system by means of a federal permit system

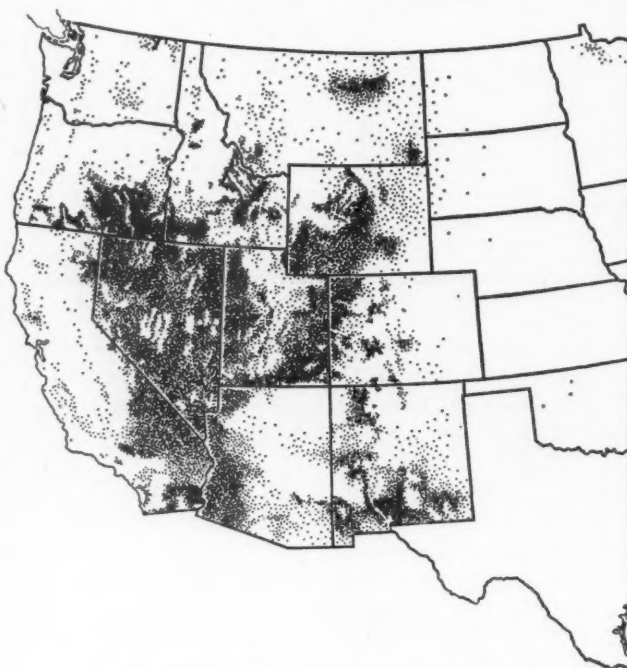
which supervision and responsibility is delegated to some agency of the federal government, which arranges for private use on the fee system. The status of these federally owned

lands is such that until Congress takes definite, positive action of some sort, the present condition merely remains. Lack of control is so thoroughly beset with such difficulties as forage destruction, soil erosion, increase of poisonous plants, monopoly of watering places, exploitive land settlement, tramp stockmen, and generally inefficient use due to the absence of incentive to establish either physical or management improvements,—it is so surroundingly beset with these difficulties as to make the demand for something better just short of a universal cry. The few individuals who have acquired profit-yielding monopolies on the Public Domain are the only informed voices not now calling for relief. In other words the real opposition to establishing control

Born in Utah and graduated from the Utah Agricultural College, where he is now a member of the research staff, the author of this article writes from an intimate knowledge of his subject. For more than twelve years he has studied range conditions throughout Utah. Three years ago, he was selected to prepare a special report for the governor of his state on the public lands of Utah of which there are over 25,000,000 acres. His views on the large question of "Who Should Control the Public Domain?" are the views of a man who knows conditions as they exist on the ground.

Mr. Stewart's article is the fourth of a series now running in this magazine dealing with the nation's public lands. Articles to follow are from Dr. George B. Clements, of California; Dr. Arthur Morgan, President of Antioch College, and Henry S. Graves, former chief of the United States Forest Service.

—EDITOR.



The unappropriated public lands as they doubtless would appear from the planet Mars. The map, reproduced from the 1923 Department of Agriculture "Yearbook," shows not only the scattered and concentrated location of the lands throughout the Western States, but the magnitude of their aggregate acreage. Each dot represents 10,000 acres; all dots represent over 190,000,000 acres

of some sort is coming from a few large outfits who in reality control and who believe they may continue to control large areas of land by virtue of their ownership of watering places. Obtaining feed in this manner gives it to them without cost.

During our whole national history the land policies have been based on the assumption that all land was capable of being utilized as farms or as small ranches. Practically all of the land east of the Missouri River, and most of it east of the Rocky Mountains, has been so utilized. The oncoming scarcity of such national supplies as timber, minerals, oil, and, more remotely coal, has led to a remodeling of opinion regarding their proper

may influence in a basic manner our ultimate welfare. The tangle of water rights and of power privileges on the Colorado River has thrust into our faces the danger of conflicting state, municipal, and private interests. A whole series of such far-reaching results are bound to arise around the problems of



Upper—A good stand of cultivated Brome grass artificially reseeded on controlled range on a Utah National Forest. Enclosure protected against grazing shows the volume of feed furnished. Lower—Area on a Utah National Forest shortly after its creation, still showing evidence of lack of range control with its story of forage destruction and consequent soil erosion

grazing, of timber control, of soil erosion, and of monopoly privileges on the Public Domain.

Even if private ownership were the desirable end of our land policy, it is no longer possible.

disposition. It is now clear that certain aspects of future national welfare will be better protected by a part of the resources in this class being reserved to the nation.

Of late, it has also become clear that the protection of watersheds against forage destruction and against soil erosion has assumed an importance that warrants national scrutiny. Private enterprise bent on economic gain is not to be trusted with a physical resource or with a legal right that

possible. Large areas of the Public Domain are not capable of becoming private property as we have used that term. When once we recognize that many sections of land are entirely dependent on access to a single watering place by animals grazing on those sections, that the watering place is already the private property of a citizen who may legally prevent access to it of animals not his own, and that the owner of the water virtually owns all the tributary public lands without the costs

of acquiring legal ownership or of paying taxes—when we recognize that these conditions prevail, as they do at intervals throughout the whole West, the reason is clear why there is still Public Domain and why it will remain Public Domain for a long time. Much of it is merely not capable of being used as private grazing units. All that can be done without

would deteriorate almost beyond belief on account of plant leaves being eaten as soon as they were out of the bud.

Private ownership was perhaps possible in the beginning had the watering places and certain lands able to endure summer grazing been reserved for use only in connection with purely winter ranges.

Now that they are gone, however, nobody except the owners of these "key" lands and of the watering places can afford to own the tributary lands. Perhaps not even the owners of the watering places can successfully assume the economic responsibilities of ownership, such as taxes and improvements on the lands of lowest forage capacity.

Leasing has two distinct ad-



establishing control or without revising radically our land and water policies is to leave it as it is or to go through some formality that would give the present users the legal strength of vested rights.

While appreciable fractions of the Public Domain are used under the water monopoly, it must be acknowledged that they are only fractions. Other bodies of land are capable of best use by a community group, the individuals of which are kept within reasonable bounds by some recognized authority. Such authority should also protect the occupants against the destructive incursions of tramp herds.

The great distances between the winter and the summer ranges increase the importance of group units as compared with private holdings.

Moreover, the limited carrying capacity of many areas gives them such low capitalization values as to present taxation difficulties. This low valuation would really prevent private individuals from building fences, corrals, dipping vats, or shearing sheds and from locating the sources of underground water. The vegetation on many of these ranges is valuable only for winter or for early spring grazing, and cannot be used for summer grazing on account of there being no available water. If water could be provided and year-long grazing begun on our winter ranges, many of them



The difference between poorly managed and well-managed range. The upper picture shows foothill range in Utah grazed too early and too heavily, causing a scant production; lower—Range conditions on a National Forest area in Idaho where grazing had been deferred in the year the picture was taken until forage matured

advantages—government control without heavy burdens of administration and development, and direct income of considerable revenue. Opposed to the advantages are two disadvantages: First, leaving the management of the land for forage in the hands of individuals, with the likelihood of overgrazing, at least near the end of the lease. Second, the fact that leasing has not brought about the really successful cooperation in the United States between the lessee and the government that we are told prevails in Australia and several European countries with regard to land purchase and rural credit generally. Wootton, who studied this question closely in Arizona and New Mexico, concluded that "the sec-

and serious difficulty lies in the fact that the kind of law that will suit the conditions in one region will not do at all in another place; and so far no one has been able to devise a lease law that would cover the necessary provisos and exceptions and properly localize the application of such limitations." A combination federal lease system might be devised wherein the terms of the lease controlled the number of animals and the season of grazing. At the end of each lease period—five or ten years—a well-qualified inspector would study the range and make such modifications for the new lease as the result of the old one seemed to warrant. The many merits of such a leasing system might warrant its trial were it not for the fact that either lease would have to be let on a competitive basis or new, qualified graziers could

On the National Forests, a federal permit system has been used for years, which with slight modification, could be adapted to use on the Public Domain. It has been tried and corrected, retried and again modified so many times that it now actually protects, manages, and conserves the watershed, the timber, and the grazing resources and at the same



More views of range conditions in the National Forests where the permit system of grazing control, which the author advocates for the unappropriated public lands, assures conservation of forage, protection of watersheds, soil stability, and a land of living things

time provides a stability in the livestock industry that has overcome the objections to it, except from a few who now have, or desire to obtain, special privileges. To grant these special privileges would be going much further toward favoritism than either public opinion or jurisprudence would tolerate. Meanwhile, on account of being denied these special privileges, the few are creating a disturbance out of all proportion to their numbers.

The permit system now in operation on the National Forests achieves the following important objects:

not be admitted. Competitive bidding destroys stability by creating uncertainty as to who will have the land next time. The failure to admit new graziers would give to present users monopoly privileges without ownership responsibilities.

It has been proposed several times in previous years that the Public Domain be transferred to the state in which it is located for whatever disposition that state might choose to make of it. President Hoover's Public Lands Commission is considering among other things the advisability of doing this. The wisdom of releasing the lands to the states can probably best be brought out by first making a brief examination of what might be done under a federal permit system.

(1) Insures conservation of the forage resources and protection of the watersheds and of associated resources.

(2) Grants grazing privileges to the present user in such a manner as to correlate the summer ranges on the National Forests with the winter and spring ranges on the Public Domain, and with the private ranch enterprises.

(3) Provides elasticity for adjustment to local conditions, to the admission of new graziers, and to new types of farming as they grow up in the farming vicinity.

(4) Insures equality of opportunity by removing the element of unfair competition that large outfits have too frequently employed in dealing with small outfits.

While there are several theoretical principles, such as the intrinsic justice of "state rights" that favor state administration as opposed to federal, the practical difficulties in the way of state control are very great. Perhaps this is best brought out by stating briefly the concrete advantages in favor of control by the federal government. These may be summarized as follows:

(1) A federal agency can manage these lands under one head, whereas if the lands pass to the control of the separate states there would be eleven or more separate heads, many of which would be competitive. The stockmen now have ample troubles without magnifying them manifold.

(2) Under the United States Forest Service there could be a unit correlation between the summer ranges on the National Forests and the winter and spring ranges on the Public Domain. If the Public Domain lands were handled by the separate states this correlation could not be effective because many of the summer ranges are in a separate state from the winter ranges. Winter ranges in the Utah-Nevada desert receive sheep from the summer ranges in Colorado, Arizona, Nevada, and in some cases as far as Oregon.

(3) Our state boundary lines are artificial and do not enclose distinctive geographic units. This is exemplified by the location of winter and summer ranges and by the Colorado River problem. Under state control there would have to be pacts for interstate grazing control. Who is there that has studied the progress of the Colorado Compact who would like to repeat the experience every time an interstate problem arose?

(4) Even when some satisfactory agreement is reached that will settle the present controversy over water and power rights on the Colorado River, the silting problem in the reservoirs will deserve serious consideration. Only the proper federal agency can successfully prevent grazing in one state which will cause destructive silting of reservoirs in another state.

(5) The federal government has a staff of men accumulated and trained during the last twenty-five years. Their training is both intellectual and practical and they have found the proper adjustment between theory and practice. The beginning of state control would mean that each state would be seeking men for their separate staffs. Under a single federal agency salaries large enough to attract big-calibered men may be paid, whereas eleven states could not hope to do this. All large business enterprises are consolidating in order to provide managerial ability of a high order.

(6) Federal employees are hired under the Civil Service, and their positions are more nearly permanent, on account of which the men can be more efficient than can politically appointed men in separate states. State employees should have permanency of tenure but unfortunately there are few Western States in which this is the case, even in theory, and certainly not in practice. If petty politics be allowed to enter this problem, as they would in many of the states, a most deplorable confusion in affairs might be precipitated.

(7) One of the chief arguments for state control at the present time is that the state is entitled to income in lieu of taxation. If the future be judged by the past, the probability

is that if the states were allowed complete control of the Public Domain it would ordinarily be dissipated, disposed of in such a fashion that the people of the state would derive little benefit, or it would be consumed in providing management.

(8) At the present time, the federal government spends many millions of dollars in the West on roads and on reclamation services of various kinds. This is largely spent in proportion to the area of public lands in the state, and would undoubtedly be discontinued after a few years if the states assumed complete control of the Public Domain.

(9) Research information is sadly needed. One good research staff could be provided and only one is needed since the Public Domain presents a unit problem. Five or six, to say nothing of eleven, research organizations would be a terrific waste of energy and money. Under separate state systems valuable information from experience and from investigational work in one state would often fail to reach producers in another state. Under a single federal agency this drawback could be entirely overcome.

(10) The cost to the state of handling Public Domain grazing lands independently would be considerably higher than if put under the United States Forest Service which already has the most expensive part of the overhead organization in a corps of trained staff members. In 1927, at the request of Governor George H. Dern, of Utah, a careful analysis was made of this problem for that state. Since it is about the only one that is known to have been made, it is here summarized in a slightly modified form.

The exact personnel and budgets required would vary with the particular control system inaugurated. There would have to be officers of general administration, and a more detailed field force of rangers to assist the stockmen in getting their allotments properly classified so as to permit community grazing on these winter ranges. The snow cover itself is a variable that cannot be overlooked. There may be early snow on one part of the range but not on another. Next winter, or even later in the same winter, this condition may be reversed. If a stockman had to use a definite allotment every winter, his animals would be without water a large part of the time. These problems require adequate supervision and elasticity. Policing an allotted range is probably needless expense, except to keep off tramp herds during the summer. A good educational program would accomplish more and be better received.

Range inspection at occasional intervals must also be provided in any system of control. A few range specialists in various major fields, such as forage productivity, animal husbandry, disease control, and marketing could not be avoided if any help of consequence were to be extended to the industry. Then, there must be clerical help in the central office and travel budgets for the inspectors and specialists. Some trails and roads are absolutely required. If each function were reduced to lowest possible activity, the cost would be about \$120,000 to \$125,000.

Utah's twenty-four million acres of Public Domain would carry approximately 600,000 cow units for the winter and early spring grazing season. Many of the grazing animals would be sheep but the calculation (*Continuing on page 166*)



EDITORIALS

Misinformation—A Menace to Conservation

ANOTHER Raid on the Yellowstone" is the sensational title of an article published in the January number of *Forest and Stream*. The article is signed by the editor of the magazine and is a highly colored indictment of the efforts of the government through study and investigation to adjust the boundaries of Yellowstone National Park to best meet public needs. By charges direct and implied, the author would have the American people believe that these efforts are dictated and controlled by lumber, grazing, water-power, and irrigation interests, that the Yellowstone Park Boundary Commission, appointed by President Hoover, is merely "to preserve appearances," and that through legislative secrecy and otherwise, priceless park property, belonging to all the people, is being exploited by special interests.

The American Forestry Association has kept in close touch with the proposal to adjust the boundaries of Yellowstone National Park and the work of the commission appointed by President Hoover to look into the question on the ground—a commission composed of men of high personal and public integrity. The facts as we know them, from close and intimate study, are that just two—and only two—"interests" have made representations proposing adjustments in the boundaries of Yellowstone National Park during the past five years. The first "interest" is the general public, as represented by its government acting in response to a recognized need to adjust the boundaries along lines of natural park topography. The second "interest" is the Fremont-Madison Reservoir Company, a local organization of farmers in Fremont and Madison counties in southeastern Idaho, seeking permission to construct a storage reservoir on the Bechler River within the park to supply additional water for the irrigation of lands now under cultivation during seasons when the present supply is insufficient.

The adjustment of boundaries for administrative purposes originated with the government and upon the recommendation of William B. Greeley, former forester of the Forest Service and the late Stephen T. Mather of the Park Service—two men whose distinguished public service will go down in history. They were members of a commission selected by the government in 1925 to make a study of the boundary question on the ground. The commission in due time made its recommendation to Congress, and this recommendation was for the elimination of 76,000 acres from the park and an addition to the park of 318,000 acres from the Teton Na-

tional Forest—a net addition to the park of some 242,000 acres. Both Colonel Greeley and Mr. Mather shared in these recommendations.

Congress approved the recommendations as they applied to the east boundary of the park but suspended action with respect to the recommendation that the Upper Yellowstone and Thorofare country at the southeast corner of the park be included in the park, pending an examination of Bechler meadows, which the commission had not studied. In order to have all the facts, Congress, in 1928, directed President Hoover to appoint a new commission to make a further inspection of the south boundary, including the Bechler meadows country. This commission, of which Dr. E. E. Brownell, of California, Dr. Arthur Morgan, president of Antioch College; Dr. T. Gilbert Pearson, president of the National Association of Audubon Societies; Mr. Arthur C. Ringland, former secretary of the National Conference on Outdoor Recreation, and Mr. C. H. Ramsdell, representing the American Society of Landscape Architects are members, completed its field work last summer and is expected to make its recommendation to Congress within the next few months.

In this orderly, fact-finding procedure, openly conducted, the editor of *Forest and Stream* sees a wolf in sheep's clothing. Without a show of evidence but with a lamentable show of unfamiliarity with conditions on the ground, he brands the whole effort as a quietly conducted and sinister grab of National Park property. And, this, even before the present commission has formulated its recommendations. The effect of the article will be to plant in the minds of uninformed readers the suspicion and belief that public officials of high standing are in collusion with unseen "interests" seeking to dismember the Nation's greatest park.

The American Forestry Association will fight any raid on our National Parks or our National Forests—if the facts show a raid is being made or planned. It will fight just as aggressively to protect the characters of public officers and members of Congress who sincerely and honestly strive to perform constructive public service. The cry of "wolf" and the irresponsible pandering of misinformation every time honest men attempt to work out urgent conservation problems are a menace to conservation. Such methods, however well intentioned, destroy public confidence in the cause, hamper intelligent action, and obstruct conservation progress. As we know the facts in the case of Yellowstone Park, the

charges and implications made by the author of the article in question are a gross misrepresentation of a sincere effort of public officials to make a larger and better Yellowstone. If the author has the facts to support his statements, he owes it

to the public and to the cause which he seeks to espouse to lay those facts before the committee of Congress which will consider the recommendations of the Commission soon to report.

The Editors Miss the News

THE recent action of the Canadian Government in arbitrarily increasing the price of Canadian newsprint \$5 a ton if carried into effect will lay a burden of some \$20,000,000 annually upon newspaper publishers in the United States. That the publishers will pass this burden on to the public as best they can is, of course, to be expected. Nevertheless the price-fixing action by Canada threw the newspaper editors of this country into a near panic of editorial protest and the American Newspaper Publishers Association immediately declared war against the Canadian boost in newsprint prices. The association took the position that the increase is not justified at this time in view of conditions prevailing within the industry and the surplus of available paper now on the market. Canada replied by pointing out the importance of her own newsprint industry to the welfare of her people and the necessity of protecting herself against the exhaustion of basic resources at prices which she deemed destructive of industrial prosperity.

Although the situation has raised a great amount of editorial smoke, it apparently has not impressed American editors with their own dependency upon Canadian newsprint; nor has it awakened them to the fact that unless they exert the powerful influences which they may wield in moulding public opinion in support of home-grown pulpwood, their troubles have only begun. With millions of acres suitable for growing pulpwood in their own states and counties, American editors with all too few exceptions seem to have missed the news, coming out of Canada, that the United States must

grow its own pulpwood or be a trade slave to foreign powers. Playing up the price-fixing policy of Canada on front pages and editorial columns may bring federal action of redress, promising some relief in the immediate deadlock, but it will not grow needed pulpwood at home, and it is not likely to assure a permanent supply of Canadian timber at prices which American publishers deem favorable.

The American press exerts the greatest influence upon public opinion of any agency in the nation. With its influence back of a forest policy designed to protect and grow pulp timber at home on forest lands now idle and unprotected, newsprint independence would be eventually achieved. Neither the newspaper editors nor the newspaper publishers can solve the future pulpwood situation no matter how hard they try by lessons of redress. It will be recalled that a few years ago when the British Government endeavored to monopolize the rubber resources of the world it was eventually defeated not by governmental redress but by the American industry planting rubber trees in American possessions and protectorates. This is precisely the same method that must be followed in respect to pulpwood excepting that our pulp mills need not go to Liberia to grow pulp timber. The lands are right at home—millions of acres of them. As the first and most urgent step let the editors of the United States marshal their pens in the greatest newspaper campaign of education this country has ever seen, to banish forest fire from our timber growing lands. Will they do it in their own and the public's interest?

Phantom Funds for Roadside Trees

CONGRESS has recognized the need for highway beautification by authorizing expenditure of federal funds, in cooperation with the states, for roadside tree planting. Though this law was approved more than a year ago the Bureau of Public Roads, to date, has not been asked to authorize an expenditure or to cooperate in a single roadside planting project. The reason is not hard to find.

The tree planting provision, set forth in Section 2 of an amendment to the Federal Highway Act, approved May 21, 1928, provides that "in every case in which, in the judgment of the Secretary of Agriculture and the highway department of the state in question, it shall be practicable to plant and maintain shade trees along authorized highways, the planting of such trees shall be included in the specifications" provided in the original act.

The Act itself provides that "sums appropriated for road building, in conjunction with the several states, shall not exceed \$15,000 per mile exclusive of the cost of bridges of more than twenty feet span." In other words, the Federal Government is authorized to pay fifty per cent of the usual minimum required for satisfactory road construction, namely,

\$30,000 a mile. Most roads of federal standard cost from \$30,000 to \$50,000 a mile. Only in the case of certain roads that are very level, requiring little or no grading and few culverts, could a few dollars possibly be squeezed out for trees. Consequently the amendment has meant practically nothing.

If the government is sincere in its desire to help the states plant trees along federal aid highways, it will have to increase its mileage allotment. There are indications that this may materialize. Both houses of Congress have passed the appropriation bill for the Bureau of Public Roads providing an increase from \$75,000,000 to \$125,000,000, for next year. When the bill passed the Senate it was amended to permit federal cooperation to the extent of \$25,000 per mile. The item is now being considered by the conference committee. If included in the law it should open frequent opportunities for the state highway commissions, in letting contracts for federal highway construction, to include tree planting in their specifications. It is to be hoped that public sentiment in the different states will see to it that the state commissions make the most of these opportunities.

Leaf-scars on dogwood twigs—this
year's fruit and next year's promise!

"The alder is the first shrub to
shake out her powdery curls"



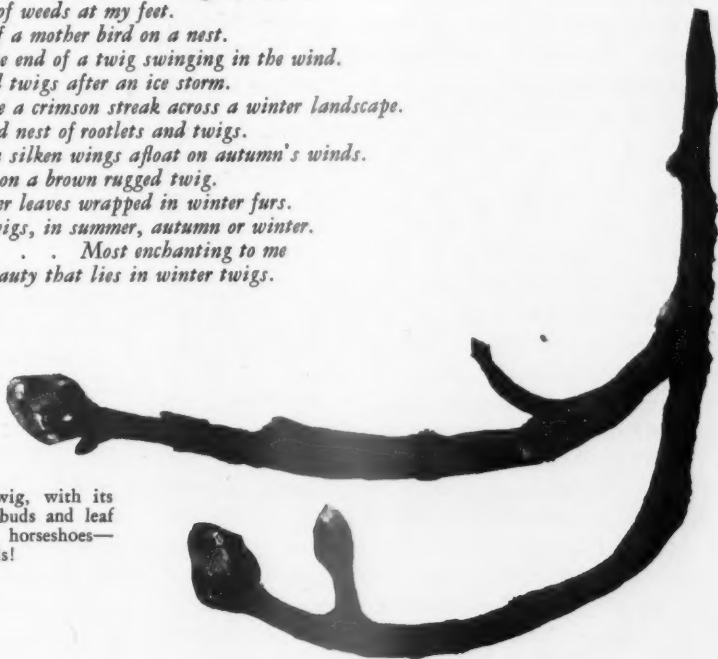
"Just Twigs"

By MINNIE L. BRIGGS

*Beauty to me has been the little things of life:
An autumn leaf, the fleet maneuvers of a butterfly.
The intermittent lyric of a brook.
An acorn, a snowflake.
A spider-web hung with silvery drops of dew.
Autumn's seed pods and flower cups, among henna grasses.
A spring flower peeping thru brown leaves of winter woods.
Roadsides crowded with Queen Anne's lace.
A wild rose by an old fence line.
And a "twig" from a tree or shrub.*

*Beauty to me has been the little things of life,
The blossoms of weeds at my feet.
The glimpse of a mother bird on a nest.
A cocoon on the end of a twig swinging in the wind.
Crystal-covered twigs after an ice storm.
A cardinal like a crimson streak across a winter landscape.
A hanging bird nest of rootlets and twigs.
Ebony seeds on silken wings afloat on autumn's winds.
The leaf scars on a brown rugged twig.
Buds of summer leaves wrapped in winter furs.
Twigs, just twigs, in summer, autumn or winter.
Most enchanting to me
Is the secret beauty that lies in winter twigs.*

A horse-chestnut twig, with its
lilylike spring buds and leaf
scars like old horseshoes—
even to the nails!



American Forestry Association Has Successful Year

LARGER service in behalf of forestry and related fields of conservation, a larger and better magazine, and an Association home in Washington were the outstanding objectives stressed in the annual report for 1929 of Ovid Butler, Executive Secretary of the Association.

Mr. Butler's report was made to the Board of Directors at its meeting on January 28 and is extracted below for the information of the many members who are interested in noting the progress and growth of their Association.

EDUCATION

The Southern Forestry Educational Project—This project, for which \$170,000 was raised to be expended over a period of three years, continues to be the Association's major activity in the field of public education. Initiated in the fall of 1928, the project has been constantly improved during the past year both in detail of operation and the character of educational material available for presentation. Outstanding among the latter is a motion picture entitled *Pardners*, made last spring by the project staff. The picture, in the judgment of many, is the best educational forestry film that has yet been made.

At the close of 1929, seven motor trucks were in operation with a field personnel of eleven men. The number of shows given was over 3,500 with an aggregate attendance of 553,000 people of which approximately three-fifths were children and two-fifths adults. Distribution of forestry pamphlets, rulers, book covers, and other material approximated 600,000 pieces, and 25,000 posters were posted along roads, in country post offices and in turpentine camps.

While no definite measure of project results are available, it is widely admitted that the work is having a tremendous effect in stimulating local interest in fire protection and the utilization of forest lands for timber growing.

Boy Scout Planting Project—This is a new project for which The American Forestry Association raised a budget of \$10,481 by public subscription late in 1929. Cooperators are the Boy Scouts of America, the United States Department of Agriculture and a representative of the contributors. The idea of the project grew out of the work which a group of Boy Scouts has done for the past several years in collecting walnuts from trees at Mount Vernon and Arlington Cemetery for planting by scout troops in other parts of the country. The interest shown demonstrated large possibilities of a nationally organized project whereby scout troops throughout the country would in the fall of the year collect nuts from trees growing on historical grounds, ship them to Arlington Farm of the Department of Agriculture for hulling, grading, and testing and then re-distribute them for planting by troops in sections of the country to which the nut trees are adapted.

Forestry Contest—The American Forestry Association medals became available early in the summer, and were immediately offered as awards to winners of state forestry con-

tests among the children of every state in the Union. Three medals are offered in each state—one for the boy and one for the girl receiving the highest award and the third, a larger medal, for the school from which the final winner comes.

To date, contests have been arranged or are in course of arrangement in all states except Alabama, Colorado, Florida, Kansas, Maine, Montana, Nebraska, Washington, and Wyoming.

Publicity—Analysis of general educational publicity promoted through the press indicates that 860 newspapers with an aggregate of over 20,000,000 subscribers carried newspaper editorials or featured material supplied by the Association. Twenty-eight trade and popular magazines published material dealing with the Association's work. In view of the fact that our clipping service covers only about forty per cent of the papers it is estimated that our publicity service placed every month, approximates 160 column-inches.

School Subscriptions—In an effort to have the Association's magazine used more extensively by school teachers, a special school subscription rate was made during the year, and our membership given an opportunity to make subscriptions as gifts to schools. The response brought 832 school subscriptions. To this end, a series of prizes is being offered school teachers during 1930 for the best plan of using the magazine in the schools.

Tree Cards—Following the approval by the Board of the preparation of colored tree cards for use in schools, the country was combed during the past summer for suitable photographs, and we now have available a collection with which to begin the preparation of these tree card sets.

MAGAZINE

During the past year, a special effort was made to improve the magazine, to give current down-to-the-minute news in the fields of forestry and conservation and to make it of the highest possible artistic and editorial value in directing interest and thought to our forest needs.

The Board has repeatedly recognized the importance of improving the magazine, both editorially and pictorially and has approved small increases from year to year as the income of the Association warranted. These increases have been good investments and we may well consider a substantial increase that will make it possible to enlarge the magazine and turn out a publication that will rank with the best in the country.

LEGISLATION

The legislative work of the Association is directed through the Forester's Office which is more and more becoming a national clearing house for public support of needed forestry and conservation measures. Through his office, hearings on the important bills and forestry items pending in Congress and conferences with the President and the Bureau of the Budget were arranged last year.

The Forester's major effort during the year has been to wrest from the Bureau of the Budget and from Congress the appropriations authorized by the basic forestry acts providing for cooperative fire protection, forest acquisition, and forest research. He has also given a great amount of time in support of larger appropriations for fire protection on the National Forests, for insect control, and forest planting. Other legislation in which the Association has rendered help is the Bird Sanctuary act and the Shipstead-Newton bill providing for the recreational development of the Superior National Forest under a balanced economic program. In his budget for 1931, President Hoover recommends an amount for the work of the Forest Service approximately three and a quarter million dollars greater than the budget of the preceding year. The bulk of this increase is for activities for which the Association has worked unremittingly.

MEMBERSHIP

During the year, 4,083 new members were added. Resignations totaled 2,828, making a net gain of 1,255 members. Since 1923 the paid membership has increased from 10,829 to 19,383, or ninety per cent.

Plans are under way to test out the possibility of affiliated membership through an active field campaign in Florida, in cooperation with the Florida Forestry Association and this Association will share the expense of an employed field agent.

OPERATION

The financial operation of the Association for 1929, as reported by Rankin & Company of New York, is summarized in the statement printed below. The total income of \$120,616 as against an operating cost of \$105,042 yielded a surplus or profit on the year's operation of \$15,573. Of this surplus, \$8,000 is Endowment Fund money because it represents income from life members obtained during the year. The actual operating surplus for the year, therefore, was \$7,503. This is by far the best financial showing the Association has ever made on a year's operation.

The income of the Association during the past seven years is as follows: 1923, \$77,250; 1924, \$85,094; 1925, \$86,346; 1926, \$103,953; 1927, \$105,823; 1928, \$111,954; and 1929, \$120,616.

These annual incomes do not include the raising of the Endowment Fund, which now amounts to \$253,333, excepting as fees of new life members have been added from year to year, or the special fund for our southern educational work, amounting to approximately \$170,000, or the \$10,500 raised for our special Boy Scout Planting Project.

Building Fund—At the last meeting of the Board, the Secretary was authorized to set up a Building Fund as a definite project of the Association. Fifteen thousand dollars was allocated as a nucleus upon which to build. It is recommended that this project be the next large financial undertaking of the Association.

Financial Statement

THE AMERICAN FORESTRY ASSOCIATION
WASHINGTON, D. C.

Balance Sheet as of December 31, 1929

ASSETS

Cash	\$36,828.52
Endowment Fund	253,331.62
Accounts and notes receivable	5,038.19
Inventories	5,574.74
Interest accrued on investments and pledges	4,769.75
Furniture and fixtures	4,289.12
Special Revolving Fund	10,000.00
Deferred charges	521.96
	<u>\$320,353.90</u>

LIABILITIES AND CAPITAL

Accounts payable	\$600.00
Reserves:	
Prepaid memberships	\$34,761.26
Southern Educational Project	14,698.29
Forester's Office	166.67
Nut Tree Project	1,826.56
Surplus	<u>268,311.12</u>
	<u>\$320,353.90</u>

INCOME AND EXPENSE ACCOUNT FOR YEAR ENDED DECEMBER 31, 1929
(Exclusive of Reserve Account Income)

OPERATING

EXPENSE

Magazine	\$54,498.70
General administration	27,101.25
Membership solicitation	12,163.82
Forester's Office	7,315.16
Educational publicity	3,963.73
Excess of income over expenses	<u>15,573.35</u>
	<u>\$120,616.01</u>

INCOME

Membership dues (less \$8,533.33 transferred to Endowment Fund)	\$84,843.16
Miscellaneous magazine sales	1,587.84
Advertising (net)	16,271.79
Interest, exclusive of portion necessary to maintain life and patron memberships	9,968.45
Bequests and donations	1,443.00
Forester's Office	6,040.33
Endowment Fund	40.00
Miscellaneous	<u>421.44</u>
	<u>\$120,616.01</u>

SOUTHERN FORESTRY EDUCATIONAL PROJECT

Contributions Received and Receivable

Contributions received	\$111,296.51
Contributions receivable	<u>77,142.09</u>

Summary of Assets and Disbursements as of December 31, 1929

Cash on hand	\$15,743.25
Advances	152.16
Contributions receivable	<u>77,142.09</u>
Total assets	<u>\$93,037.50</u>
Disbursements:	
1928	\$27,815.28
1929	<u>67,585.82</u>
Total to Date	<u>95,401.10</u>
	<u>\$188,438.60</u>

Total

\$188,438.60

Who Should Control the Public Domain?

(Continued from page 160)

is made by allowing about four sheep for a cow unit. It was thought that the maximum charge that could be made was twenty cents a cow unit. This would give an income of \$120,000. Utah would, therefore, have to manage well to break even, without providing anything for research, or any income in lieu of taxation.

On the other hand, if the United States Forest Service were allowed to handle this grazing land along with the National Forests, everything could be eliminated except some rangers, their assistants, and a few specialists. Approximately \$60,000 would permit the Forest Service to take care of the Public Domain, leaving \$60,000 to be divided somewhat as follows: In lieu of taxes to the state, \$30,000; for additional development work, including roads and trails, \$12,000; and for research investigation, \$18,000. This is a much more complete program than the state could carry out without making considerable additional appropriations.

If some other agency of the federal government besides the

Forest Service should undertake to control grazing on the Public Domain, it would incur most of the expenses that a single state would have and there would be, in the main, a separate and competing agency in charge of the winter range from the one in charge of the summer range. Otherwise, there would be cost, friction, and lack of unit organization. It is not thinkable that the National Forests should be turned over to some other branch of the federal government than that of the Forest Service. It would therefore seem to be very shortsighted for these Public Domain grazing lands to be transferred to any other agency. Any agency could, undoubtedly, render some service to the stockmen, but why are the stockmen and the people as a whole not entitled to the best possible system?

The welfare of the livestock industry and the welfare of the nation both demand that the Public Domain be transferred to the Forest Service to be handled in conjunction with the National Forests.

Wild Mackerel

(Continued from page 143)

Admiration swelled within me for this salt-water battler, and I found myself attempting to conceal my anxiety lest I miss my first strike. His initial outburst had shaken my old friend the black bass from his pedestal. But as ugly suspicions that I was being unfaithful took hold of me, I became slightly more calm; and after a great deal of preparation dipped my lead less than thirty feet off starboard.

Nothing happened. But almost instantly the skipper's reel sang the unerring song of a strike and his line began to hum. I could not refrain from watching the battle. A vicious cut through the water, an unexpected reversal, then a dead heavy line. The fish had submitted. A quitter!

"Wild mackerel!" I tormented the skipper. "Bah!"

"Mackerel?" The skipper gave me a contemptuous glare and thrust a buff-colored, sharp-nosed fish before me. "Look at those teeth—a baby shark. Man alive, surely you didn't think—for the love of Susie, your line—oh, eat him up fish!"

Swwhoosh! A steel-colored fish torpedoed through the water as my pole attempted the Czechoslovakian hornpipe.

I groped blindly for the reel, which was hissing and spinning like a burning plane in an earthward plunge, and found it two yards from the end of the line. Then I set myself for the shock. It came, but not as I had anticipated. With magnificent disdain for hooks, nets, or the boat, wild mackerel looped beautifully and charged straight for me. I lost the reel in a desperate move to do something about it.

"Oh, eat him up, mackerel!" roared the skipper. "He thinks you're a bass."

It was beginning to look like a stormy day for the fresh-water clan when wild mackerel lost his head. With the boat and certain freedom straight ahead he kicked over his rudder and dived to the left. Now was my opportunity.

Deliberately allowing the fish to run until the line was straightened out, I turned him over, brought him to the surface and waited to see what he would do. I did not wait long. He looped again—just as magnificently—and charged the boat. I reeled furiously to keep command. As he neared the boat I purposely gave him a little line—just out of curiosity. Would he turn and dive again? He did, ten feet from me.

Using fingers, teeth and toes I checked his mad dash and brought him in, surprised to find but eighteen inches of him.

"Well," smiled the skipper, "do I win that wager?"

It was one of those big spiritual moments with me. Wild mackerel had been tried and I was still trembling with the thrill of his vicious assault. Against him must be weighed memories of ruthless battle along my chosen inland streams.

"I am converted but not convinced," I said finally, trying to be both fair and loyal. "Converted to salt-water fishing through the magnificence of this fellow's instinct to fight, but not convinced he is clever enough to gain a decision over black bass. He has power and agility, and a stouter fellow I have never seen—but he isn't smart. He is inclined to fight rather than resort to trickery as old man bass is wont to do. But, man, alive, what a fight he makes!"

The skipper laughed. "Let's call it a draw. I'm convinced, any way, you like our wild mackerel."

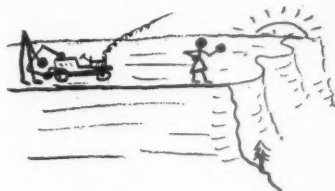
I did like him. And for the next twenty minutes, while they flared around the boat like flies around honey, my admiration mounted. What he lacked in cleverness he made up in his thundering assaults.

Wild mackerel—he of the shoal waters, he of the he-man instincts—a fighting mass of fish flesh, born to dare, equipped to struggle; plunging, thunderous, old mackerel! Of course he is the salt-water equivalent to the fresh-water bass!



The Final Test

She: "I think the poets are right, George. It is only in the great open spaces that we find ourselves."



He: "Well, now's your chance to prove it. We're twenty miles from anywhere, the sun's going down, we're almost out of gas and I've lost that darned road map."—*Louisiana Conservation News*.

Time to Look Nuchalant

A man on the Texas frontier came into camp riding an old mule. "How much for the mule?" asked one of the loafers.

"Jist a hundred dollars," answered the mule's rider, without hesitation. "Give you five," said the loafer, insultingly.

The rider dismounted and led his mule up to the other man. It looked as if there might be a fight.

"Stranger," he said, solemnly, "I ain't goin' to let a little matter of \$95 stand between me and a mule trade. The mule's yours."

Like the Whirling Whimpus—Don'tcha Know

Student: "And poor Harry was killed by a revolving crane."

Englishwoman: "My word! What fierce birds you have in America."—*Service*.

By All Means

"Steam Heated Highway Over the Sierra Nevada," announces a headline. "And," comments Edward Hope in the *N. Y. Herald Tribune*, "it will, of course, be the happy plan of Providence to have it fir-lined."

Deep Mystery

"Jamie had but recently arrived from the 'old country,'" says Ranger Frank McCaslin, "and his first job was with a logging outfit in the Maine woods. He was given an ax and put with a crew that was swamping out a logging road. Being told to 'fall that tree over there,' Jamie attacked the tree savagely, cutting on first one side and then the other, until the tree resembled the first effort of an unskilled beaver. Along came the boss, and after a moment asked: 'Which way is that tree goin' to fall?'"

"Jamie eyed him with astonishment. 'Which wye is it goin' to fall? Me eye, old son, what do ye think I am—a bloomin' prophet?'"

A Tip on Tarpon Fishing

An angler had a four hours' tussle with a huge tarpon before he was able to land it. When at length he had made sure of his catch, he took it home and related his triumph to his maiden aunt. He made as much of his adventure as possible, and laid special stress on the time it took and the immense energy he had to expend before he could secure the fish.

When he had finished he waited anxiously for praise.

For some moments there was silence, and then, with a puzzled expression, his aunt looked up from her knitting.

"But, my dear Arthur," she said, "why didn't you cut the string and get rid of the brute?"—*Louisiana Conservation News*.

Origin of a Familiar Term

"I was over at Blaney Park the other day and visited Paul's camp on Screw Auger Creek," writes Joe to Shot Gunderson in the *Upper Peninsula Development News*.

"There I saw a sled about six feet long and two feet wide with posts fore and aft. They tried to tell me that Elmer, the moose terrier, used to haul frankfurters on this to the men for their 7 o'clock morning lunch, and he used to run so fast that he got so warm that the men

got to calling this the 'hot dog sled' and that is how the term 'hot dog' came to be applied to frankfurters. What do you think of that?"

Harmonizing Things

Alcohol in place of gasoline has many advocates. Possibly they feel that filling the gas tank as well as the driver with the "joyous juice" may add new glamour to motoring.

—R. B. Smith in *Scientific Monthly*.

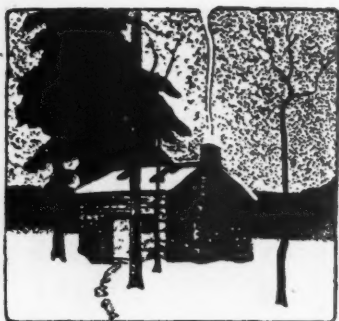
She'd Think He'd Been on the Links

Slater (returned from a recent hunting trip, stopped in a butcher's shop): "Got any rabbits or squirrels?" he asked.

"Just sold out this morning," said the butcher, "but we have some nice sausages."

Slater: "Sausages. How can I tell my wife I shot sausages?"—*Ad Club News, Kansas City*.





Department of Science Education

Conducted by ELLIS C. PERSING

Natural Science Department, School of Education, Western Reserve University

How Teachers May Use Current Articles in This Magazine to Supplement Nature and Science-Study Textbooks Will Be Outlined in This Column Each Month by Professor Persing

THE suggestions for using the articles in this magazine will be given in a form that can be used directly by students and teachers in the upper elementary grades, the Junior High School and Senior High School. It is not our plan to displace textbooks in any field of subject matter but merely to suggest supplementary reading and visualize materials which will enrich the present course and relate it to the experiences of the pupils.

Elementary School

Birds—"The Guardian of the White Pines" by Willard B. Gillette (see page 141).

When you are studying birds or trees read this article.

1. What animals help to protect the white pine?
2. What can be said against the nuthatch?

3. How does this bird help us?
Winter Sport—"The Cruise of the Komatiks," by Dustin White (see page 152).

On a cold winter night you will enjoy reading this fascinating story of a trip in a komatik drawn by a team of Eskimo dogs. Can you tell the class what you have read?

Tree Club—"A Station Master and a Forestry Club," by Sanford B. Hunt (see page 144).

Have you ever planted the seeds of trees and watched them grow? Here is a story of a club that you should read.

1. What did the members of the Felton Forestry Club learn about trees?
2. How do they obtain expert advice?
3. What methods have they devised for selling the young trees?

Junior High School

Wild Life—"The Case of the Brown Bear," by George F. Hatch (see page 131).

Here is an interesting story about bears. You will want to read this when you are investigating the topic of mammals.

1. What are some of the charges brought against the brown bear?
2. How does this animal compare in size with other animals?
3. How does this animal obtain its food?
4. Why is the brown bear considered dangerous to life?
5. Tell the story of a Kodiak bear.

Trees—"The McGuffey Elms," by Mildred G. Durbin (see page 146).

Have you ever heard of the "McGuffey Readers"? Perhaps your parents used them in school.

Senior High School

Public Land—"Who Should Control the Public Domain"? by Dr. George Stewart (see page 156).

If you like to debate, here is a good subject for discussion in your English or biology classes. You will find information on the same topic in three previous issues of this magazine.

1. What are the five methods suggested in this article for the control of the Public Domain?

2. What will result from the lack of control?

3. What is achieved by the federal permit system on the National Forests?

4. What are the advantages in favor of federal control?

5. Why should the Public Domain be transferred to the Forest Service?

Forest Fires—"Fire Lanes and Intensive Patrol," by E. T. Allen (see page 147).

In connection with your study of forest fires you will want to read this article. What are the advantages of this method?

1. What is meant by the "strip and compartment method" to stop a forest fire?

2. How have the fruit growers of California attempted to protect their investments?

3. What has been the cost and the results?

National Parks—"A New National Park in the East," by Laura Thornborough (see page 137).

America's twenty-second National Park includes some of the most interesting country and people in North America. Read this story thoroughly and compare the features of the new National Park in the East with the other National Parks.

1. Where are the Great Smokies?
2. What are the outstanding features of the Great Smokies?
3. When will the government begin development of the new park?

4. Why did mountain farmers object to selling their land?
5. What is the highest mountain in the South?
6. What are the principal flowers and trees found in this region?
7. What wild animals are found in the new park?
8. What opportunities do the Great Smokies offer for recreation?

Fish—"Wild Mackerel," by Erle Kauffman (see page 142).

If you enjoy fishing you will want to read this story—the thrilling capture of a fighting fish off the Florida coast.

1. To what family does the mackerel belong?
2. What are the larger species and where are they found?
3. From a fishing standpoint, compare the mackerel and the fresh-water black bass.



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Mention AMERICAN FORESTS AND FOREST LIFE—It Helps

Forestry and Conservation in Congress

SENATOR CHARLES L. McNARY, of Oregon, reported to the Senate on February 4 the Agricultural Appropriation Bill (H. R. 7491) which passed the House on December 20, 1929. The Senate bill carries an increase of \$363,557 over the bill as it passed the House. Of this amount \$80,500 goes to the Forest Service, whose total appropriation is increased from \$15,703,730 to \$15,784,230.

Increases for the Forest Service include \$25,000 for investigations in forest planting and forest management in the northern great plains with provision for a sub-station in North Dakota; \$10,500 for investigations in southern hardwoods, particularly in the lower Mississippi Valley; \$5,000 for forest research work in northern Georgia; \$15,000 for investigations at the Forest Products Laboratory in Madison, Wisconsin, in the pulp and paper-making possibilities of northwestern soft woods, particularly Douglas Fir; and \$25,000 for a forest economic study of practical measures of preventing forest devastation and for speeding up the extension of forestry practice on private lands.

The committee decreased by \$25,000 the appropriation for studies in soil erosion and the maintenance of a station for erosion studies in the Pacific Northwest. No increases for soil-erosion studies were made in other regions so the total appropriation for this item stands at \$160,000 rather than \$185,000 as passed by the House.

The Biological Survey received increases totaling \$76,157, of which \$7,000 is for investigations relating to the production and handling of fur-bearing animals; \$4,157 for laboratory work in the identification of birds and mammals; \$25,000 for investigations and demonstrations looking toward the establishment of musk oxen in Alaska and \$40,000 for investigations concerning the destruction of young wild ducks.

On January 24 and 25, The American Forestry Association was represented before the Senate Committee on Agricultural Appropriations by its Forester, G. H. Collingwood, Colonel Joseph Hyde Pratt, Executive Secretary of the Southern Forestry Congress and Professor H. H. Chapman, of the Yale Forest School, New Haven, Connecticut; Mr. F. W. Besley, State Forester, Maryland, represented the Association of State Foresters, and Mr. Franklin W. Reed, the National Lumber Manufacturers' Association. In addition Mr. Ivan E. Goodner, Washington representative of the Los Angeles Chamber of Commerce, and Mr. Charles G. Dunwoody, of the California Development Association, made statements supporting requests for other additions to the forestry and conservation items in the appropriation bill. These were made definite by amendments submitted by Senators Tasker L. Oddie, of Nevada, Carl Hayden, of Arizona, and Joseph E. Ransdell, of Louisiana.

Requests for increases presented to the committee but not included in the bill as reported to the Senate are briefly as follows: \$1,000,000 for forest acquisition under the McNary-Woodruff Law, bringing the total to the full authorization

of \$3,000,000 instead of \$2,000,000; \$300,000 to be added to the amount of \$1,700,000 as stated in the bill, as passed by the House, for the co-operative protection of state and privately owned lands from fire, under Section 2 of the Clarke-McNary Law; \$275,000 for more forest planting on National Forests; \$15,000 to permit the Forest Products Laboratory at Madison, Wisconsin, to continue studies in the construction of small buildings; \$50,000 for studies in erosion control in the Southwestern States; \$15,000 for fire weather warning studies and \$20,000 for studies in the life history and methods of control of forest insects.

These requests, together with the increases included in the bill as reported to the Senate total more than \$1,750,000, but The American Forestry Association considers them all thoroughly justified because of the programs established by the passage of the Clarke-McNary, McNary-Woodruff and McNary-McSweeney laws. Even these increases would not have brought all of the appropriations up to the schedules which are authorized in the laws.

On February 10, the Agricultural Committee reported favorably on Representative John D. Clarke's bill (H. R. 5694) which would authorize annual appropriations of \$5,000,000 a year with which to carry on the program now being conducted under the McNary-Woodruff Law passed in 1928, authorizations for which close with the fiscal year beginning July 1, 1932.

On February 4, hearings were held before the House Committee on Agriculture regarding H. R. 5410 introduced by Representative Harold Knutson, of Minnesota, authorizing appropriations for forest planting on National Forests east of the Rocky Mountains. Charles W. Boyce, Secretary, American Paper and Pulp Association; John M. Bush, of the Northern Michigan Development Bureau; Fred I. Vibert, representing the Minnesota Arrowhead Association, and G. H. Collingwood, the Forester for The American Forestry Association, made statements in favor of the bill.

The Public Lands Committee, whose chairman is Representative Don B. Colton, of Utah, heard statements from February 4 to 12 regarding the Nolan Bill (H. R. 6981) to develop a coordinated program of forestry and recreation in the region of the Ten Thousand Lakes of northern Minnesota. This looks toward a memorial international wilderness area within the Superior National Forest and the Quetico National Park of Canada. Witnesses who appeared in favor of this bill included Representative Harold Knutson, of St. Cloud, Minnesota, Ernest C. Oberholtzer, President and Secretary of the Quetico-Superior Council; Seth E. Gordon, Conservation Director of the Izaak Walton League of America, and the Forester of The American Forestry Association. The opposition was led by Representative William A. Pittenger, of Duluth, Minnesota, who has introduced another bill (H. R. 8968) embracing a smaller area within the same region which does not meet the ideals of the proponents of the Nolan Bill.

(Fifth of a Series of Practical Forestry Discussions)

Natural Forest "Come-Back"



Redwood forest after logging and fire (1889)



Same forest (1924) showing difficult clearing of new growth for railroad right of way

VOLUNTEER re-growth on logged off lands is often an asset of great value, whose possibilities should not be overlooked. The National Lumber Manufacturers Association, in its nation-wide study of commercial forestry has discovered a surprising number of cases where non-reproductive logging has been followed by natural re-stocking with commercial timber species sufficient to render it advisable to retain the land and give it fire protection.

Foresters and lumbermen alike are too prone to believe that a period operation, whose only purpose is to harvest the virgin crop, inevitably results in "destruction" of the forest. A number of lumber companies of recent years have been re-examining their cut-over lands and have found that *the forests have restored themselves.*

Every timberland owner should make a similar examination of his logged off holdings—otherwise, he may be missing an opportunity.



Volunteer growth of yellow poplar in western North Carolina, already a valuable pulpwood crop

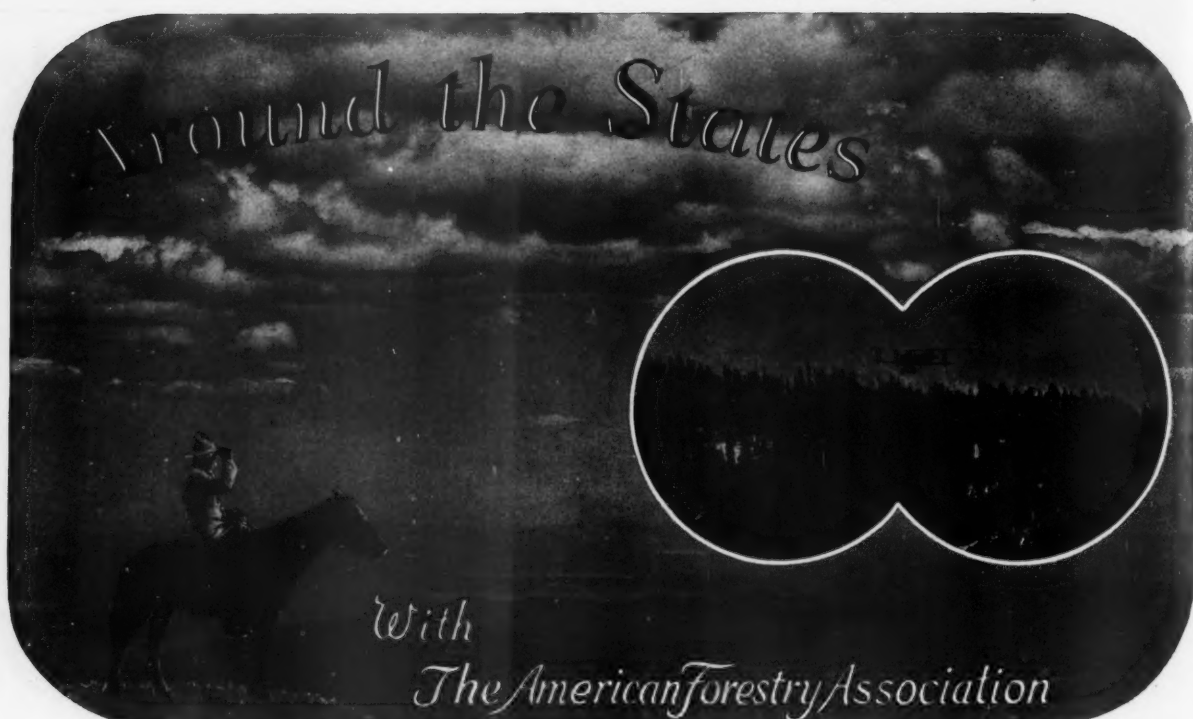


A new forest in West Virginia twelve years after clean cutting and heavy burn



South Carolina Loblolly Pine seven years old on a lumber company's former mule yard

{ For copy of the full forestry program recently adopted write, The National Lumber Manufacturers Association, Transportation Bldg., Washington, D. C. }



Alexander Legge Urges Restoration of Farm Woodlot

Restoration of the woodlot to the American farm was urged by Alexander Legge, Chairman of the Federal Farm Board, in a recent radio address on the problem of reducing the acreage planted to surplus crops.

While the board has as one of its objects aid in marketing farm produce, Mr. Legge pointed out, it should require no great amount of argument to convince the grower that if a somewhat reduced production would result in bringing him more money than he is getting with a larger production, it would be foolish for him to spend time and labor and exhaust the fertility of his land by producing the excess that will only bring him a lower financial return.

The problem of making use of the acreage eliminated in such a modified program, Mr. Legge declared, finds its best solution in timber growing or reforestation.

"Most people think of a reforestation program along the lines of large areas," he stated, "commonly accepted in terms of the future timber supply. But there is another kind of reforestation equally important, in fact, more important, to agriculture, and that is the restoration of the so-called woodlot. In the past the woodlot has played an important part in the prosperity of a large percentage of our farmers. It has furnished shade for livestock in summer and shelter in winter, posts for fences, firewood for the house.

"In many areas this woodlot is disappearing. Why not restore it? If every American farmer were to devote five per cent of his present acreage to this form of reforestation he would have gone a long way toward meeting the problem of excess production

and at the same time have added materially to the future value of his farm."

Mr. Legge said that the various states have an important part to play in any campaign to restore the farm woodlot. That is in the matter of taxation. Some states already have passed legislation exempting from taxation land that is planted for the purpose of reforestation. Other states should



ALEXANDER LEGGE
Recently elected Vice-President of
The American Forestry Association

do so, Mr. Legge believes, being specific to make such exemption apply to the woodlot as well as to land planted to timber.

Wilbur Accepts Land for Great Smoky Park

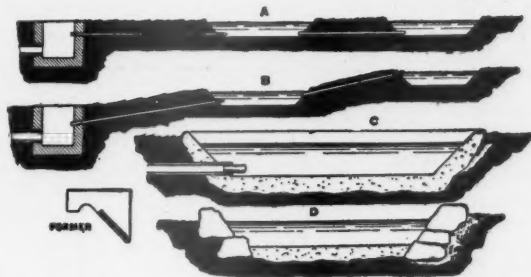
Title to 150,000 acres of land in what is to constitute the Great Smoky Mountain National Park was formally turned over to the Secretary of the Interior last month by representatives of the States of North Carolina and Tennessee.

This action marked the first delivery of Great Smoky Mountain Park land to the government and the first concrete step toward actual consummation of the project. It constituted the first physical transfer of land to the government and marked the passing of the project from a theoretical conception to an actual accomplishment.

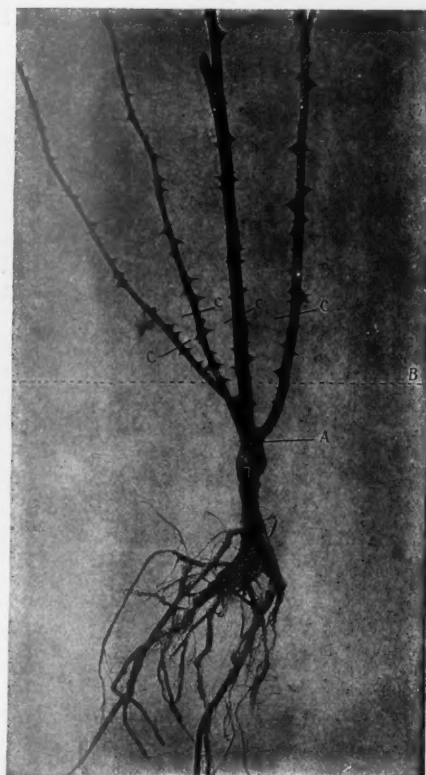
The law providing for the creation of the Great Smoky National Park and the Shenandoah National Park made their acceptance by the federal government contingent upon the presentation of complete title to the land. The states must acquire the land and deliver it to the federal government. It is then to be placed under the National Park Service for administration and development. There are practically 704,000 acres of land in the Great Smoky Mountain district suitable for park purposes. The law provided that when a minimum of 150,000 acres was presented to the government, it should be accepted and placed under protection. An additional 277,000 acres are necessary however, according to the law, before the government will set in motion any development project.

The delegation from North Carolina was headed by Governor O. Max Gardner, Dennis G. Brummitt, attorney general, and L. R. Varser, assistant attorney general. The Tennessee delegation was led by Governor Henry H. Horton and John R. Aust, assistant attorney general.

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Mention AMERICAN FORESTS AND FOREST LIFE—It Helps

Dakotas Assigned to Lake States Experiment Station

With the placing of North Dakota and South Dakota, except the Black Hills region, in the territory of the Lake States Forest Experiment Station at University Farm, St. Paul, Minnesota, has become the headquarters for the administration of the federal forestry program in five states. Announcement of this change has just been made by Dr. Raphael Zon, director of the Lake States station.

Since its establishment in September, 1923, the Lake States station has served Minnesota, Wisconsin, and Michigan. Effective January 1, however, North Dakota was transferred from the territory of the station at Missoula, Montana, and South Dakota from the station at Denver, Colorado.

Pennsylvania Buys 132,000 Acres of Forest Land

Negotiations for the purchase of 132,000 acres of forest land in Pennsylvania, comprising the largest forest-land purchase ever made in the history of the State, were recently terminated by the State Forest Commission and the State Game Commission. The land, located in eleven counties, was purchased from the Central Pennsylvania Lumber Company at a rate of three dollars an acre, the total cost, including title work, surveys and other acquisition expenses bringing the figure to considerably over \$400,000.

The land is to be allocated on the basis of 70,226 acres to the Department of Forests and Waters and 61,910 acres to the State Game Commission.

Yale Forestry School Receives Three Gifts

Three new gifts, to be devoted to education, experiment and demonstration in applied forestry, have been made recently to the School of Forestry, Yale University. Mr. George Hewitt Myers, of Washington, transferred to the school a tract of forest land, aggregating nearly 8,000 acres in Tolland

and Windham Counties, Connecticut, and a gift of \$100,000 was made by Mr. and Mrs. Starling W. Childs, of New York, to the endowment fund. In addition the Charles Lathrop Pack Foundation at Yale was increased to \$325,000.

Announcement was made also by Dean Henry S. Graves, of the appointment of Mr. Nathan D. Canterbury, formerly State Forester of Louisiana, as director of the new Yale Forest on the Charles Lathrop Pack Foundation. A well-known figure in the forestry profession, Mr. Canterbury is a graduate of the Yale School, class of 1922, and a native of Massachusetts.

Urge Adirondack Survey

A survey of the Adirondack regions of New England to determine the adaptability for development of their forest resources was recommended at the Eighteenth Annual Meeting of the New York State Forestry Association, at Albany, January 30. The body also passed resolutions endorsing the Englebright Bill which would provide for adequate forest-fire protection on the National Forests of the country.

Clarence L. Fisher, a member of the State Reforestation Commission and the author of the Fisher Forest Taxation Law, was elected president. New vice-presidents elected were Thomas C. Luther, retiring president; Eberly Hutchinson and Charles J. Hewitt, members of the state legislature; John A. McDermott, Merwin K. Hart and Mrs. Allen H. Moore.

Fourth of Germany Kept in Forests

German forests cover 31,258,000 acres, twenty-seven per cent of the total area of the republic, according to the latest available figures from American Consul R. W. Heingartner, Frankfurt-on-Main. About one-half of the forests are privately owned and one-third state owned.

Three-fourths of the German forests consist of coniferous trees, the proportion of soft woods declining toward the west. Hesse-Nassau, the Bavarian Palatinate and the State of Baden, are richest in timber, over forty per cent of their area being forested. The total yield of timber in Germany during 1927 was 50,000,000 cubic meters, or approximately 1,800,000,000 cubic feet.

Ohio Conservation Convention

The Conservation Council of Ohio has announced a state-wide Conservation Convention at Columbus March 6, to inaugurate Ohio's program for conservation of its natural resources. Governor Cooper and Dr. T. Gilbert Pearson, president of the National Audubon Societies, head a list of prominent speakers.

Buck Succeeds Granger As District Forester in Northwest

C. J. Buck has been named to succeed C. M. Granger as District Forester in charge of the Pacific Northwest National Forest District, it has been announced. Mr. Granger has been selected to head the nationwide forest survey now being conducted by the Forest Service.

Mr. Buck entered the Forest Service twenty-seven years ago, serving the past ten years as Assistant District Forester of the Northwest District in charge of lands. He was graduated from the Yale Forest School.

Arkansas Forest Survey

The results of a recently completed survey to determine the ownership of the woodland area in Arkansas have been reported by E. Murray Bruner, Forest Inspector of the United States Forest Service. According to a table, based on the 1925 census of agriculture report, the total woodland and unimproved area of the state is 22,845,881 acres, of which about 22,000,000 is estimated to be woodland.

The area of public-owned woodland is placed at 2,000,000 acres, divided as follows: Natural forest, 1,000,000 acres; unreserved United States government land, 200,000; state-owned land (estimate), 800,000 acres. The area of privately owned woodland is considered to be 20,000,000 acres or ninety-one per cent of the total woodland area.

Western Forest Conference

The annual Forest Management Conference of Western forest interests will be held March 3, 4, and 5 in Portland, Oregon, with private, state, federal, and Canadian timber and protective agencies attending. Questions of co-operative fire work, equipment, methods, educational projects, and similar subjects will be discussed.

Virginia Forestry Association Organized at Richmond Meeting

A State Forestry Association for Virginia was organized at the forestry conference held at Richmond, February 11 and 12. W. D. Tyler, of Dante, vice president of the Clinchfield Coal Corporation, was elected president. Former Governor Elbert Lee Trinkle and P. Ryland Camp, of Franklin, vice president and manager of the Camp Manufacturing Company, were elected vice presidents.

Resolutions were adopted endorsing a state-wide soil survey, increased appropriations for the Appalachian Forest Experiment Station, and additional appropriations for a more intensive fire protection system.

The Virginia State Chamber of Commerce worked in conjunction with the United States Chamber of Commerce in arranging the forestry conference. Among those who addressed the meeting was R. Y. Stuart, chief of the United States Forest Service.

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Ask the Forester?

Each Month Forestry Questions Submitted to the Association Will Be Answered in This Column. If an Immediate Reply is Desired a Self-Addressed, Stamped Envelope Should Accompany Letter.

QUESTION: I wish information which will help in transplanting several trees whose trunks are six to ten inches in diameter.—
M. W., Ohio.

ANSWER: A trench should be dug around the trees to a depth of three or four feet and about two to three feet from the trunk of the trees. This trench might be dug during the late summer or early fall and left open or filled with light rubbish through the winter. Some time during the winter or early spring the trees can be moved. It will help to do it when the ground is thoroughly frozen. The mass of dirt and roots should be carefully wrapped with burlap and bound with short boards or rope before moving the tree. Professional tree movers use a special derrick for a tree of this size. Without special equipment one may have to dig a long, sloping approach and get the tree on to a flat sledge or "stone boat." Some tree movers recommend the trench be filled and the tree left standing through all of a growing season. This encourages small fibrous roots to develop close to the tree trunk. After these have developed the tree can be transplanted at practically any time if sufficient care is taken to get it firmly imbedded in the soil and give it plenty of water. Seasons when such work can be done with the least risk are during the late summer or early fall and in the early spring before growth starts.

QUESTION: Do any states have laws which provide that a tree shall be planted for every one that is cut down?—*M. J. S., Ohio.*

ANSWER: No states require the planting of a tree for one that is cut down, but a number of states have forest nurseries, where trees are grown to be distributed to citizens for forest planting purposes. These trees are available at nominal prices. Under the terms of the Clarke-McNary law, passed by Congress in 1924, the federal government is giving financial assistance to thirty-four states for the growing and distribution of small forest trees for forest planting. Last year these states furnished to their citizens nearly 70,000,000 trees.

QUESTION: Have you records showing the largest and the tallest trees in the world?—
R. S. A., Australia.

ANSWER: The largest tree is said to be a Cypress (*Taxodium distichum*) in the yard of an old church known as Santa Maria del Tule, in Mexico City. The diameter is over 41 feet, and the tree is at least 5,000 years old. The tree was first described by Alexander Humboldt in 1803; in the *Bulletin* of the Missouri Botanical Gardens for December, 1916, and more recently in the January, 1921, issue of this magazine.

The tallest tree is a Eucalyptus located some ten miles from Healesville on the Black Spur, Australia, which is 480 feet in height and over twenty-five feet in diameter at the base of the trunk. This was described in *AMERICAN FORESTRY*, Vol. 18, 1912, p. 598.

QUESTION: Will long-leaf pine and Sequoia trees grow in Pennsylvania?—*L. B. M., Pennsylvania.*

ANSWER: It is doubtful if long-leaf pine or Sequoia trees will grow in Pennsylvania. They may grow through one or more winters but they will be stunted. A few specimens of these two trees are growing in Washington, D. C., but neither species can be said to prosper.

QUESTION: Can you suggest anything in the nature of a paint or stain that will repel woodpeckers and similar birds from attacking pine trim under eaves on a frame house?—*S. M. B., California.*

ANSWER: Neither paint nor stain will repel birds because they have no sense of smell. It has been suggested that you cover the area with sheet metal. If this is undesirable or impractical write Biological Survey, Department of Agriculture, Washington, explaining seriousness of the situation and request permission to kill the guilty birds. Permission to kill is necessary because the federal law protects woodpeckers and flickers.

Street Trees and Ice Damage

By GAYLE H. SOMERS

It may be of interest to give some data on the resistance of certain street trees to ice damage. During the last of March, Fostoria, Ohio, in 1929, suffered one of the worst ice storms ever recorded in its history. There was no telephone or telegraph service. Electric current was cut off for several days. Thousands of telephone poles went down with their load of ice. Being a forester, it was of considerable interest to me to see how the various tree species which are used in the city for street and shade purposes stood the storm damage.

I was surprised to find that the tree that stood the damage best is an exotic. The Ginkgo biloba was not damaged in the least by the storm. The Cottonwood, *Populus deltoides*, was most damaged. The Red Maple, *Acer rubra*, which is the favorite street tree of the city, was very badly damaged. The Pin Oak, *Quercus palustris*, suffered very little as did the Sugar Maple, *Acer saccharum*. The American Elm, *Ulmus americana*, likewise resisted the storm very well. I have arranged the trees in the following order with the most resistant first.

1. Ginkgo biloba; 2. Pin Oak, *Quercus palustris*; 3. Sugar Maple, *Acer saccharum*; 4. Horse Chestnut, *Aesculus hippocastanum*; 5. Black Walnut, *Juglans nigra*; 6. American Elm, *Ulmus americana*; 7. Norway Maple, *Acer plantanoides*; 8. White Birch, *Betula alba*; 9. Ash Leaved Maple, *Acer negundo*; 10. Cottonwood, *Populus deltoides*.

The most desirable street trees for this city, from the standpoint of ice damage, are Ginkgo, Pin Oak, Sugar Maple, American Elm, and Norway Maple.

The great cause for damage is the fact that practically all the trees of the city are planted so close together that the struggle for light causes them to grow into forest type trees with very tall boles, instead of into shade trees with short, sturdy boles. Thousands of dollars could be saved property owners every year if they would take the advice of a technical man before they planted their trees. The average distance between street trees in this city is fourteen feet. The average distance should be about fifty feet.

The popular notion here is that shade trees should be headed back about every ten years. "Headed back" means in plain words "butchered." The closer together they are planted, the oftener the tree butchers can come in and "butcher" your trees and bleed the deluded customer into thinking they are saving a beautiful tree. A government publicity campaign on "tree butchers," is just about as necessary as a campaign against the corn borer.

A trip through Fostoria when the ice damage was still plainly evident and the tree butchers still working would be a convincing argument to almost anyone.

Nature School to Open

The Nature Guide School of the Western Reserve University School of Education, Cleveland, Ohio, is scheduled for June 21 to August 1, 1930. This is the second year of this summer session under the direction of Dr. William G. Vinal and offers an interesting opportunity for men and women to extend their studies in nature activities. It is designed particularly for leaders of Boy Scouts, Girl Scouts and similar organizations.

Revise Michigan Land Prices

Acting on the recommendation of the Lands Division, the Michigan Conservation Commission at its last regular meeting voted to withdraw from sale all tax homestead, primary school, and swamp lands, except platted property and land within the corporate limits of cities and villages, which had been advertised and offered for sale prior to January 1, 1929, and now remains unsold.

These lands will then be appraised and reappraised only upon the receipt of an individual application for purchase and will be restored to the market by the Conservation Commission only upon the approval of such applications for purchase. Much of this land has been on the market for fifteen to twenty years, appraised at the value it had when it was first lost by private individuals and companies. Large areas are now within or near departmental projects such as state forests and game preserves and often their value when placed on the market was but a fraction of their present value.



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New Forestry Building at Syracuse

An appropriation of \$600,000 has been made by the State of New York for the construction of a new building for the State College of Agriculture at Syracuse University. Tentative plans for the structure were drawn last year by Professor Laurie D. Cox, head of landscape engineering, and were discussed by the faculty under the direction of the late Dean Franklin H. Moon.

The addition of a science building to relieve congestion has been necessary for the college has worked under a handicap for years due to the lack of room in the present building for laboratories and adequate classroom space.

Barrett Succeeds Burleigh in Georgia

DuPre Barrett has been named acting head of the Department of Forestry of the University of Georgia, at Athens, while Professor Thomas D. Burleigh goes on a year's leave of absence for a special study of birds.

Professor Barrett is a graduate of the Georgia School of Forestry and for the past six years has been serving as Extension Forester in Georgia.

Professor K. S. Trowbridge, another graduate of the Georgia School of Forestry, has been teaching in Athens for the past two years. He has been named to succeed Professor Barrett as Extension Forester, and will continue the work with Georgia farmers and County Agents.

New Conservation Set-Up in Ohio

A new law, passed at the recent session of the Ohio General Assembly, creates a Division of Conservation in the Department of Agriculture to displace the old Fish and Game Commission. Under the new set-up the Division of Conservation also takes over control of inland lakes hitherto administered by the state director of public works.

The legislation had the support of fish and game organizations and out doors lovers throughout the state and was strongly backed by Governor Myers Y. Cooper. In effect the revised law delegates legislative authority to a conservation council, whose members are to serve without compensation save actual expenses, while the administrative functions remain in the Department of Agriculture. The director of agriculture is to appoint the conservation commissioner recommended by the council, if satisfactory.

The division has set up nine bureaus for the fixing of responsibility and defining of duties. These bureaus and their chiefs are as follows: Lake Erie supervisor, H. C. Crossley; conservation officer, F. L. Lytle; engineering, F. A. Farley; accounting, F. L. Brothers; education and publicity, Oliver Hartley; fish propagation, George Morcher; scientific research, E. L. Wickliff; game propagation, Thomas Nash; inland lakes and parks, Frank G. Adams.

Supervisor Charlton Killed

R. H. Charlton, supervisor of the Ouachita National Forest, in Arkansas, died at Hot Springs February 13 from injuries received in an automobile accident at Huntington, Tennessee, a week previous. Mr. Charlton was fifty-one years old, and a veteran of the United States Forest Service, serving as supervisor of National Forests throughout the country for twenty-seven years.

Baker Appointed Director of Forest Research Institute

Willis M. Baker, formerly Associate State Forester of New Jersey, has been appointed as Director of the Forest Research Institute maintained at Mont Alto, Pennsylvania.

Mr. Baker is a native of Warren, Pennsylvania, and a graduate in forestry of the Pennsylvania State College. He served as Forest Assistant with the United States Forest Service in Arizona following his graduation, from 1914 to 1917, became Assistant Forester of New Jersey in 1917, and Associate Forester for the State in 1922.



Willis M. Baker

The Pennsylvania Forest Research Institute is the only one of its kind maintained by a State Department of Forestry in the United States. Previously research was conducted by the Department of Forests and Waters, but it was not until the past year that the work was co-ordinated with headquarters at Mont Alto.

Oregon's Fire Toll Great

Forest fire losses in 1929 established a new high record in Oregon due to most hazardous fire weather. During the season protection agencies fought 1,472 fires which burned approximately 370,150 acres of timberland, more than one-fourth of which was merchantable timber. Three-quarters of a million dollars were spent in fire patrol and suppression.

What is the Fastest Animal?

What is the fastest animal in the United States? According to tests made in this country, the antelope is the speediest animal. One registered sixty-two miles an hour for two and one-half miles. An elk traveled at the rate of fifty-two miles an hour, while a deer stepped it off at forty-seven miles. A coyote moved at forty-five miles an hour.



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You do not have to be a subscriber to participate in the contest. If your school is not receiving the Magazine, procure a copy from your local city or town library, or send to us, for a sample copy.

Rules of the Contest

The contest is open to all teachers from grades one to twelve.

Manuscripts should be limited to one thousand words or less, but there is no limit on the number of plans which a teacher may submit.

Write on one side of the paper only, and in the upper left-hand corner of the first page give your name, grade you teach, name of department, name and location of your school.

Manuscripts will not be returned unless accompanied by the necessary return postage.

The contest closes on June 1, and manuscripts mailed after that date will not be considered. All manuscripts should be addressed to

School Contest Editor
AMERICAN FORESTS AND FOREST LIFE
1523 L Street N. W.
Washington, D. C.

Expedite Topographic Surveys

A program under which topographic coast and geodetic surveys of the United States, provided by the Temple Act, will be completed within eighteen years instead of twenty, as originally planned, is reported to have been perfected, following a series of conferences between the executive secretary of the Administrative Board of American Engineering Council, President Hoover, and Secretaries Wilbur and Lamont. The program, according to the council's bulletin, will be made effective in this year's budget. It is estimated that it will cost \$1,000,000 more annually to expedite the surveys.

New Jersey Fund Sought to Develop Watersheds

Issuance of \$7,000,000 worth of state bonds is asked in a bill introduced in the legislature February 4. The money would be used for the acquisition and development of watershed properties. State Senator Wolber offered the measure in the upper branch. Sale of the bonds would be subject to a referendum at the next election.

The bill was presented, Senator Wolber explained, at the suggestion of the state water policy commission created last year to deal with the conservation of water supplies and to develop new sources.

Wilson Heads Canadian Association

Ellwood Wilson, manager of the forestry division, Canada Power and Paper Company, Grand-Mere, Quebec, was elected president of the Canadian Forestry Association at the thirtieth annual meeting, held on January 27 in Montreal.

Honorable Charles A. Stewart, Minister of the Interior in the Federal Government and chief of the Dominion forestry organization, in his address was optimistic about the progress of Canadian forestry work and pointed to future needs. "If we are to be of any service as a central organization at Ottawa it will be by promoting better methods of fire prevention and establishing from one end of Canada to the other an organized forestry service. We must imbue the minds of the Canadian people with the idea that the paramount thing to do is to prevent fires, and I have already suggested that it be made a criminal offense to let fire loose," he said.

Southern Pine Meeting

The fifteenth annual meeting of the Southern Pine Association will be held at the Roosevelt Hotel, New Orleans, Louisiana, March 24, 25 and 26, it has been announced by H. C. Berckes, secretary-manager.

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Rattlers Help in Rust Eradication

A crew engaged to eradicate currant and gooseberry bushes in a valuable white-pine area of the Sproul Forest District, Clinton County, Pennsylvania, cleared up eighty-five acres on Rattlesnake Run in seven working days, reports Ranger Robert Drake, who headed the expedition. During that time they destroyed 26,761 bushes, 23 rattlers and one copperhead.

Assistant Forester Tom Williams says that the snakes were not so prolific in the Hyner Run section, for the crew there averaged only one a day, though once they got three in an hour. "The presence of the rattlers," he remarked, "keeps the men's eyes on the ground and insures that every inch is thoroughly covered. You would be surprised to see how closely the crew sticks together in line, especially those who are not yet used to 'bell fish.' These fellows keep near the men who are experts in killing them."

Receipts from National Forests

Receipts from National Forest activities in the last six months of 1929 were nearly ten per cent more than for the same period during 1928, the United States Forest Service has announced. In the six-month period of 1929, the nine National Forest districts received a net total of \$3,245,164.03 from timber sales, grazing fees and other sources, an increase of \$316,053.96 over the same six months of 1928.

In the six months of 1929, the sale of timber to be cut under Forest Service supervision yielded \$2,405,829.17, nearly three-fourths of the total of receipts. Nearly 1,500,000 board feet of timber is now being cut annually on the National Forests, or a little more than three per cent of the total cut for the country. The present cut could be materially increased without overcutting the sustained annual yield, says the Forest Service, but for economic reasons it is not the policy to force National Forest timber on the market. Large sales of National Forest timber are made to enable established mills to continue operation, stabilizing communities dependent on them; to prevent depreciation in value of Government timber; to aid development of regions or communities by the establishment of industries and transportation facilities.

Receipts from grazing for the last six months of 1929 amounted to \$625,267.99, an increase of nearly \$75,000 over the same half-year of 1928. Special use and water-power permits brought in \$120,168.64 and \$58,042, respectively, increases of \$24,711.52 and \$4,431.20.

The California District, which includes the National Forests of California and south-

western Nevada, had the largest receipts, \$924,830.36, which was more than one-fourth of the total. The North Pacific District, comprising Washington and Oregon, followed with \$636,622.28. The Rocky Mountain District had receipts totaling \$446,916.42; the Intermountain, \$334,645.25; the Northern, \$327,822.79; the Southwestern, \$276,154.71; the Eastern, \$229,445.75; the Alaska District, \$43,375.57; and the Lake States District, \$23,350.90.

Forestry Foundation Established at University of Michigan

The promotion of practical forest land management is the object of a gift of \$200,000 made by Charles Lathrop Pack, of Lakewood, New Jersey, to the University of Michigan. This fund is to be known as the George Willis Pack Forestry Foundation in memory of the donor's father.

The income from the Foundation is to be used for the salary and expenses of an experienced forester and for such other expenditures as may be necessary in carrying out the purposes of the Foundation in accordance with the wishes of the donor.

In making his gift, Mr. Pack pointed out that the Biological Station at Douglas Lake, in Cheboygan County, contains 3,300 acres on which forestry measures can advantageously be undertaken to supplement the work already under way by the zoologists and botanists at the Station. This area, formerly covered with a fine stand of white and Norway pine, was burned after logging and is now covered with an inferior stand of aspen with scattering jack, white and Norway pine.

Tour Proposed Tropical Park

The proposed Everglades Tropical National Park at Cape Sable, the southernmost point of Florida and of the United States, has been visited by officials of the Department of the Interior and nationally known scientists. They are conducting a survey to determine the advisability and practicability of adding the site to the Nation's parks. Horace M. Albright, Director of the National Park Service, and Dr. T. Gilbert Pearson, of the Audubon Society of America, were in the party which inspected this section of the Everglades by air, land, and sea.

Englebright Bill Hearings

Chairman Gilbert N. Haugen of the House Committee on Agriculture and Forestry has scheduled public hearings for the Englebright bill H. R. 3245 for March 10 and 11. The American Forestry Association is arranging for presentation by representatives of a number of national organizations.

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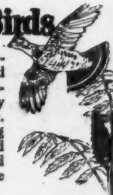
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Book News



and



ACCOUNTING IN THE LUMBER INDUSTRY. By H. W. Eckhardt. Harper & Brothers, Publishers, New York. 1929. Price \$6.00.

This book, which is one of the first attempts to present a bookkeeping method that might be adopted as basic and standard for the whole lumber industry, is most painstaking and thorough. It is written to meet a long-felt need for a complete treatment of accounting problems and procedure in this particular field. It treats carefully the general principles as well as the specific difficulties of lumber accounting. The system advocated is adaptable to large and small businesses alike, and allows for enlargement, elaboration, curtailment and revision within an organization without a change in basic principles. With a minimum of compiled data to draw upon, the author has turned to numerous active industrial companies, studied their methods, and has presented in an organized way their practices in accounting.—D. M. K.

"Control of Gullies," Bulletin No. 271, of the College of Agriculture of the University of Missouri—Although this bulletin describes erosion control in terms largely of crop rotations, specific recommendations in the use of black locust trees are made where erosion has extended to the extent of deep gullies.

FORESTS AND MANKIND. By Charles Lathrop Pack and Tom Gill, 250 pages, with numerous plates and drawings. Macmillan Company, New York. Price \$3.

There are those who criticize the reader who turns first to cartoons and comic strips in the daily paper, but all should admit that when drawings truly illustrate an article or book, it is a real accomplishment. The line drawings, even more than the beautiful reproductions of forest scenes, are one of the outstanding features of "Forests and Mankind." The authors have done well to recognize the artist, Garnet Jex, whose drawings are truly illustrations of the authors' ideas.

Here is American forestry stripped of all cumbersome terms of German or Latin derivation and set forth with such simple clarity as to be almost revolutionary. Mr. Pack and Mr. Gill have made "Forests and Man-

kind" as easy to read as an article in a Sunday supplement. They have avoided the temptation to make forestry appear mysterious or even difficult with tables or charts or long names. Thereby they may have succeeded in giving the book a more lasting place in our growing forestry literature, for specific data are soon superseded by other data, but fundamental principles are slow to change.

"Forests and Mankind" may not achieve the distinction of being a required textbook in many colleges or universities, but it promises to be found on the shelves of men and women who desire to learn something about the forests of this country and the means at hand for adequately caring for them. Those who wish information concerning American forests and forest practice will find it easy to read, while those who desire assistance in the solution of our forest problems will find useful suggestions. In the last chapter, the authors deal with the task ahead, and attempt to point a way out of our forest dilemma. Their recommendations include more effective protection of forests from fires, wiser methods of forest taxation, more public forests, proper care in lumbering, and research in better methods of wood growing and wood use. They urge that we delay no longer in the formation of a program and declare the longer we delay, the more burdensome will the forest problem become. Books like this will help to make the public forest minded.—G. H. C.

Trees mutilated by winter ice storms should be given first-aid treatment if resulting damage is to be kept down to a minimum, says the bulletin of the Bartlett Tree Research Laboratories. Three types of repair will be necessary: Pruning, shaping and fertilization.

In limb breakage the stubs must be removed and room given for the development of side shoots and minor limbs that will eventually take the place of lost parts.

When tree trunks have been split they should be strengthened by cabling and bracing. Partly uprooted trees can be straightened and secured. In this case it is often necessary to prune the roots so as to prevent infection of the broken ends and to assist the trees to form new anchor roots. Intelligent fertilizing will aid the tree to recover.

A HISTORY OF AGRICULTURAL EDUCATION IN THE UNITED STATES—1785-1925. By Alfred Charles True. Miscellaneous Publication No. 36 of the United States Department of Agriculture, 435 pages with numerous cuts. Price \$1.00.

A comprehensive history of all phases of agricultural education in the United States since the Revolutionary War. Dr. True reveals the fact that as late as 1897 the only instruction in forestry in American colleges consisted of lectures in connection with courses in botany, geography and horticulture. Since the establishment of the first professional school of forestry at Cornell University, in 1898, the place of forestry in education has progressed rapidly. He points out that the interest in forestry education in America has been parallel with the growth of the United States Forest Service.

The twenty-two National Forests of the North Pacific District cover a total area of 22,921,771 acres, comprising about two hundred seventeen billion feet of standing timber, according to figures published in a new statistical bulletin by the United States Department of Agriculture. The district includes the states of Oregon and Washington.

Fifty tables, giving detailed figures of National Forest areas, standing timber, and national forest activities such as timber sales, grazing, recreation, and special uses, are included, as well as information about glaciers, thermal springs, the highest peaks and historical data. The figures and facts were compiled by forest officers of the district.

VOLUME, YIELD, AND STAND TABLES FOR SECOND-GROWTH SOUTHERN PINES. Miscellaneous Publication, No. 50, United States Department of Agriculture.

A pocket-size booklet of 202 pages, containing 172 tables. Discussions and definitions to aid in the application of the tables occupy the first seventeen pages.

NATURE NARRATIVES. By Austin H. Clark. The Williams & Wilkins Company. Baltimore, 1929. Price \$1.

As a naturalist associated with the National Museum, in Washington, D. C., a vast amount of unbelievably curious information about the world we live in has been available to the author through his own wanderings and through the research of others with whom he is in daily contact. Some of this information, Mr. Clark has sorted and treated in the brief, non-technical sketches that make up this pocket-sized volume.

The various subjects are handled in an adroit and simple fashion so that even very young naturalists—and what boy or girl is not, at heart, a naturalist—will find it interesting reading. "Nature Narratives" will answer many of the questions bright young-

sters ask, but—and this may be taken as a warning—it will stimulate a hundred more. And this, says Mr. Clark, in his brief preface, is precisely what he intends it to do.—A. C.

MANUAL FOR BIRD BANDERS. By Frederick C. Lincoln, United States Department of Agriculture Miscellaneous Publication No. 58, 112 pages.

Detailed information for bird station operators about the trapping, handling and banding of different birds. The introduction gives the history of bird banding in the United States and general information about the operation of stations and the issuance of permits.

ERTRAGSTAFELN DER WICHTIGEREN HOLZARTEN (Production tables of important timber trees). By Dr. Adam Schwappach, published in 1929 by J. Neumann in Neudamm, Berlin, Germany. Price 7 marks.

Although printed in German the material is so clearly set forth that only a rudimentary knowledge of the language is necessary for one with a forester's experience to use the tables and graphs. They present growth and volume studies for birch, beech, oak, alder, ash, spruce, pine, and white fir. The book is designed for field use and may be slipped into a coat pocket.

Mountain Beaver in Northwest—An account of the life history, feeding habits, and methods of control of the mountain beaver, a rodent inhabiting the Pacific Northwest, is contained in a new Farmers' Bulletin issued by the United States Department of Agriculture. The bulletin is based on an extensive study of the mountain beaver by the author, Theo. H. Scheffer, associate biologist of the Bureau of Biological Survey.

"One Hundred Thousand Shade Trees," published by the Shade Tree Survey of the Massachusetts Forestry Association, is an eight-page illustrated bulletin summarizing the recent shade-tree survey conducted in that state. It discusses the question of appropriations for roadside plantings in towns, the cost of planting, type of species best adapted for roadside and ornamental use, care of the trees, and kindred subjects. The Association has initiated a campaign to plant 100,000 shade trees, about 500 miles of roadside, during the present year, with prizes awarded for the best planted half mile of street or road.

REVISION OF THE AMERICAN CHIPMUNKS, NORTH AMERICAN FAUNA No. 52. By Arthur H. Howell, United States Biological Survey.

A study of practically all the specimens of chipmunks in North America.

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The American Forestry Association, in announcing its Prize Contest for Outdoor Photographs, invites everyone in the United States and Canada, whether a member of the Association or not, to compete for the \$200 in cash prizes and other awards. Since one of the purposes of the Contest is to bring to light unusual photographs, the Association will accept several hundred photographs at regular rates in addition to the prize-winning photographs.

Any outdoor subject will be considered—trees, forests, reforestation, lumbering, wild life, hunting, fishing, exploration, and other phases of forest and tree life.

The Contest opens January 1, 1930, and closes at midnight October 1, 1930. Send in winter subjects now and follow up with spring and summer subjects. There is no limit to the number of photographs a contestant may submit.

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RULES OF CONTEST

The name and address of the photographer must be printed on the back of each photograph.

Enclose with each selection of photographs sufficient postage for return if not available. Unavailable photographs will be returned as soon as rejected by the judges, irrespective of closing date of the contest.

While every possible care will be taken, The American Forestry Association cannot be responsible for any photographs that may be lost through the mails or in handling.

Photographs previously published or sold to other magazines, newspapers, or periodicals cannot be considered. Upon the award of a prize or payment for a photograph, the contestant surrenders all publication right to The American Forestry Association.

Do not submit negatives as they will not be considered.

Address all photographs to the Prize Contest Editor, The American Forestry Association, Lenox Building, Washington, D. C. Unless so addressed, photographs will be handled as regular material.

Finds Franklin Tree

A specimen of the lost gordonia, the celebrated Benjamin Franklin tree, was found recently in the Altamaha River valley in Georgia by G. A. Schultze, botanist in the service of the United States Department of Agriculture, after he had searched for it for over twenty years. The discovery writes finis on an old botanic mystery, for this tree had been missing to science for 140 years.

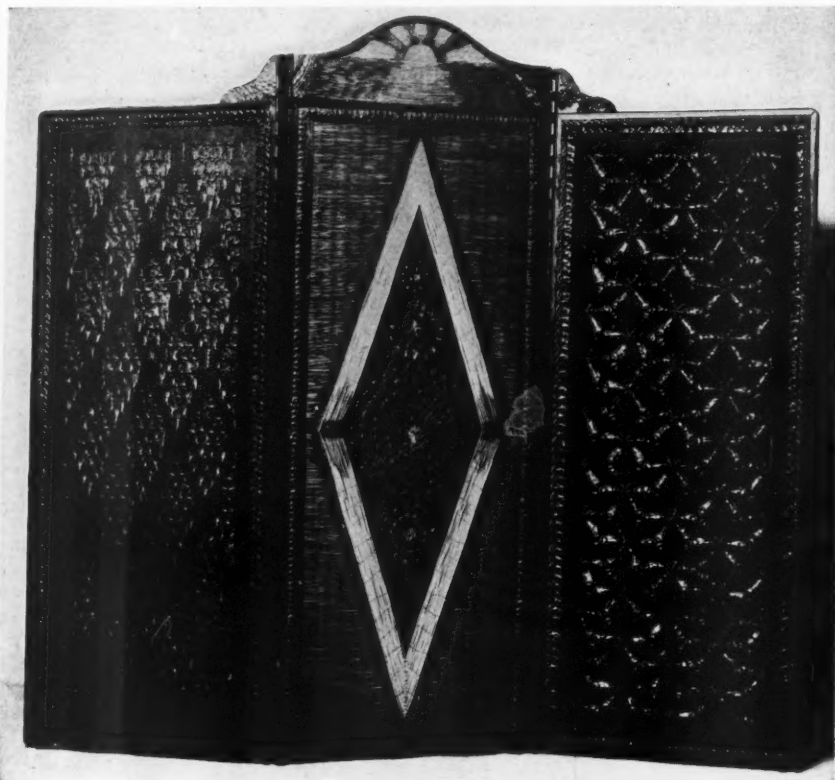
The lost gordonia is a beautiful flowering tree-shrub of the bay family, of which several domestic specimens are in existence in the United States and Great Britain. Under cultivation the tree has been infertile and could be propagated only by cuttings. Hence the search for another wild specimen. Mr. Schultze found the tree in the same valley where John Bartram, of Philadelphia, first located it in 1765. Again in 1790 it was found by Moses Marshall in the same valley.

King Lauds American Parks

In officially inaugurating the work of the commission which is to have charge of the new Albert National Park in the Belgian Congo, King Albert, of Belgium, recently paid high tribute to the National Park work of the United States, saying that it had inspired and set an example to all the world in the work of preserving the public domain for future generations.

The new Albert Park contains 495,000 acres in the volcanic region of Kivu, and will be the scene of extensive scientific research. The district is said to contain not only every specimen of vegetable life known to Africa, but also nearly every animal. The commission appointed to administer the park is composed primarily of scientists, including several from foreign countries.

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International Paper Company Gives College Forest Land

The International Paper Company has just announced that a gift of five hundred acres of Adirondack timber land has been made to Syracuse University for the use of the New York State College of Forestry.

This tract will adjoin the New York State Ranger School Forest near Wanakena, on Cranberry Lake. The Ranger School Forest at present comprises one thousand eight hundred fifty acres. Enlargement of the forest by the gift of five hundred acres makes possible the establishment of a comprehensive plan of forest management over this area. The forest is being developed by the faculty and students of the Ranger School.

Introduces Reforesting Bill

Senator Arthur H. Vandenberg of Michigan introduced on February 12 a bill (S. 3531) to enlarge tree planting operations on National Forests east of the Rocky Mountains and to insure desirable silvicultural practices on National Forest timber sale areas. The bill is similar to H. R. 5410 introduced by Representative Harold Knutson of Minnesota and heard before the House Committee on Agriculture on February 4.

Wood Utilization Exhibit

Practical application of the use of chemically-treated lumber in house construction was brought out in an exhibit of the National Committee on Wood Utilization of the Department of Commerce at the annual convention of the Ohio Association of Retail Lumber Dealers held recently in Columbus.

Wood Chips for Motor Fuel

In a California lumber plant a motor truck is doing heavy work daily with a basket of wood chips instead of a tank of gasoline for fuel. This spectacle, says C. H. Wetmore, of the National Lumber Manufacturers Association, is quite enough to fire the imagination regarding the wonders of wood utilization that may lie beyond the veil of the future.

Similar experiments have been taking place in Europe. In Sweden, during the autumn army maneuvers, a five and a half ton truck, driven by a wood gas generator, attracted widespread interest and gave a creditable account of itself in every emergency. It made a trip of 144 miles in seven hours, at an average speed of twenty miles per hour, using in all 297 pounds of fuel. The chips cost eighty cents, whereas gas sufficient for the trip would have cost four dollars in Sweden.

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Conservation Calendar in Congress

In introducing this monthly feature as a new service to the members of The American Forestry Association, the Editor invites comment as to its value.

APPROPRIATIONS

H. R. 7491—Department of Agriculture bill, carrying appropriations for 1931 for the Forest Service, Biological Survey and conservation activities in other bureaus. Introduced by Representative Dickinson, of Iowa. Report No. 33 contains hearings before House Committee. Passed the House December 20, 1929. Reported to the Senate February 4, 1930 (Senate Report No. 151). Recommended increases for forestry, \$80,500 over amounts passed by House.

H. R. 6564—Department of the Interior appropriation bill carrying appropriations for 1931 for the National Park Service, the Indian Service and the Office of Public Lands. Introduced by Representative Cramton, of Michigan. Report No. 25 contains hearings before House Committee. Passed the House December 11, 1929. Referred to Senate Committee on Appropriations.

FORESTRY

S. 3487—Authorizing an appropriation of \$900,000 for the construction of additional laboratories for the use of the Forest Products Laboratory at Madison, Wisconsin. Introduced by Senator La Follette, of Wisconsin, January 6. Referred to Committee on Agriculture.

S. 2354—To extend the provisions of the Agricultural Marketing Act to include naval stores. Introduced by Senator George, of Georgia, December 4, 1929. Referred to Committee on Agriculture.

H. R. 3245—Authorizing an appropriation of \$4,500,000 for constructing permanent improvements on National Forests to provide more effective fire protection. Introduced by Representative Englebright, of California, May 23, 1929. Hearings before House Committee on Agriculture and Forestry March 10 and 11.

S. 1139—Bill similar to above, introduced by Senator Cutting, of New Mexico, May 16, 1929. Referred to Committee on Agriculture.

S. 3130—Authorizing appropriation of \$500,000 annually for the control of emergency insect infestations on National Forests. Introduced by Senator Oddie, of Nevada, January 6. Referred to Committee on Agriculture and reported unfavorably by Secretary of Agriculture.

H. R. 8804—Bill similar to above, introduced by Representative Englebright, of California. Referred to Committee on Agriculture.

H. R. 5410—Authorizing appropriation of \$150,000 during first year, increasing to \$400,000 a year, to enlarge tree planting operations on National Forests east of the Rocky Mountains. Introduced by Representative Knutson, of Minnesota, November 21, 1929. Hearings before House Committee on Agriculture February 4.

S. 2366—Increasing proportion of annual receipts on National Forests to be paid to the states for public schools and public roads from twenty-five per cent to fifty per cent. Introduced by Senator McNary, of Oregon, December 4, 1929. Referred to Committee on Agriculture.

S. 62—Promoting development, protection and utilization of National Forest resources, and to stabilize the livestock industry. Introduced by Senator Smoot, of Utah, April 18, 1929. Referred to Committee on Agriculture.

S. 1190—Bill similar to above, introduced by Senator Phipps, of Colorado, May 20, 1929. Referred to Committee on Agriculture.

S. 940—Creating an executive department of the government to be known as the Department of Conservation. Introduced by Senator Hawes, of Missouri, May 3, 1929. Referred to Committee on Interstate Commerce.

S. 1594—Transferring the Forest Service and other bureaus of conservation to the Department of the Interior. Introduced by Senator King, of Utah, September 5, 1929. Referred to Committee on Public Lands and Surveys.

S. J. Res. 101—Authorizing the President to call a conference for the purpose of formulating a comprehensive plan for forest conservation and reforestation. Introduced by Senator King, of Utah, December 4, 1929. Referred to Committee on Agriculture.

S. 2498—Protection of forest lands in the Superior National Forest in northern Minnesota to the end that there may be developed the Superior-Quetico International Park. Known during the 70th Congress as the Shipstead-Newton bill. Introduced by Senator Shipstead, of Minnesota, December 4, 1929. Referred to Committee on Public Lands and Surveys.

H. R. 6981—Bill similar to above, introduced by Representative Nolan, of Minnesota, December 9, 1929. Hearings before Public Lands Committee of the House February 4-13.

H. R. 8968—Similar to S. 2498 and H. R. 6981 but covering a more restricted area, with a qualifying clause permitting railway and highway construction within the protected area, permitting local, small-scale, hydroelectric power development on private lands for private purposes, and exempting from the provisions of the act any proposed water-power development for which application was made before January 1, 1928. Introduced by Representative Pittenger, of Minnesota, January 22. Referred to Committee on Public Lands.

H. R. 9412—To construct a memorial archway spanning the Theodore Roosevelt International Highway on the continental divide between the Lewis and Clark National Forest and the Flathead National Forest in Montana in commemoration of the leadership of Theodore Roosevelt, and of the twenty-fifth anniversary of the forming of the present Forest Service. Authorizes an appropriation of \$25,000. Introduced by Representative Leavitt, of Montana, February 1, 1930. Referred to Committee on the Library.

H. R. 5694—Authorizing appropriations of \$5,000,000 a year for ten years to purchase forest lands in the Eastern States as authorized by the Weeks law (Act of March 1, 1911). This would continue and accelerate the program of the Woodruff-McNary law whose authorizations cease in 1931. Introduced by Representative Clarke, of New York, December 2, 1929. Hearings before House Committee on Agriculture and Forestry February 3 and 4. Favorably reported, February 15.

S. 2244—Bill similar to above, introduced by Senator McNary, of Oregon, December 3, 1929. Referred to Committee on Agriculture.

H. R. 7923—Authorizing appropriations of \$12,500,000 for forest roads and trails. Introduced by Representative Colton, of Utah, December 21, 1929. Referred to Committee on Public Roads.

S. 1486—Bill similar to above, introduced by Senator Oddie, of Nevada. Referred to Committee on Public Roads.

S. 2246—Amending the Clarke-McNary law providing cooperation with state foresters so that forest industries and timberland owners may be given assistance in the management of their forest lands. Introduced by Senator McNary, of Oregon, December 3, 1929. Referred to Committee on Agriculture.

H. R. 3569—To permit a national land survey to determine areas unprofitable for agriculture, and to extend the provisions of the Weeks Law to permit their purchase by the National Forest Reservation Commission. Introduced by Representative Fulmer, of South Carolina, May 31, 1929. Referred to Committee on Agriculture.

H. R. 6976—Authorizing \$100,000 for establishing and operating a reforestation station in South Carolina. Introduced by Representative Fulmer, of South Carolina, December 9, 1929. Referred to Committee on Agriculture.

S. J. Res. 116—To extend the provisions of the Clarke-McNary Law to Porto Rico. Introduced by Senator McNary, of Oregon, January 6. Referred to Committee on Agriculture.

H. J. Res. 192—Bill similar to above introduced by Representative Davila, of Porto Rico, January 7. Referred to Committee on Agriculture.

S. 122—To amend the Clarke-McNary Law to permit the distribution of cooperatively produced forest planting stock to all privately owned lands and to allow their use for water conservation. Introduced by Senator Oddie, of Nevada, April 18, 1929. Referred to Committee on Agriculture.

PARKS

H. R. 3867—To establish the Ouachita National Park in Arkansas. Similar to bill which was pocket-vetoed by President Coolidge. Introduced by Representative Wingo, of Arkansas, June 11, 1929. Referred to Committee on Public Lands.

H. R. 3568—Revising the boundaries of the Yellowstone National Park. Introduced by Representative Cramton, of Michigan, May 31, 1929. House Report No. 181, January 15. Passed the House February 3. Referred to Senate Committee on Public Lands and Surveys.

H. R. 8163—To facilitate the administration of National Parks. Introduced by Representative Colton, of Utah, January 7. Referred to Committee on Public Lands.

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S. 195—Bill similar to above introduced by Senator Nye, of North Dakota, April 20, 1929. Referred to Committee on Public Lands and Surveys.

H. R. 8763—Authorizing the Secretary of the Interior to investigate and report to Congress on the advisability of establishing the Apostle Islands National Park in Wisconsin. Introduced by Representative Peavey, of Wisconsin, January 17. Referred to Committee on Public Lands.

S. 2318—To establish the Grand Coulee National Park in the State of Washington. Introduced by Senator Jones, of Washington, December 3, 1929. Referred to Committee on Public Lands and Surveys.

H. R. 239—To establish the Kildeer Mountain National Park in North Dakota. Introduced by Representative Sinclair, of North Dakota, April 15, 1929. Referred to Committee on Public Lands.

H. R. 5672—Abolishing the Papago Saguaro National Monument in Arizona. Introduced by Representative Douglas, of Arizona, December 2, 1929. Referred to Committee on Public Lands. Reported to the House January 17.

H. R. 8284—Abolishing the Platt National Park, in Oklahoma. Introduced by Representative Cramton, of Michigan, January 8. Referred to Committee on Public Lands.

H. R. 8283—Changing the name of the Platt National Park, in Oklahoma, to the Platt National Monument. Introduced by Representative Cramton, of Michigan, January 8. Referred to Committee on Public Lands.

H. R. 235—To establish the Roosevelt National Park in North Dakota. Introduced by Representative Sinclair, of North Dakota, April 15, 1929. Referred to Committee on Public Lands.

S. 326—to establish the Royal Gorge National Park in Colorado. Introduced by Senator Waterman, of Colorado, April 22, 1929. Referred to Committee on Public Lands.

H. R. 8534—To transfer administration of the Sullys Hill National Park, in North Dakota, to the Department of Agriculture and maintain it as the Sullys Hill National Game Preserve. Introduced by Representative Hall, of North Dakota, January 13. Referred to Committee on Public Lands.

H. R. 4020—Authorizing the Secretary of the Interior to investigate and report on the advisability of establishing an Upper Mississippi National Park in Iowa. Introduced by Representative Haugen, of Iowa, June 17, 1929. Referred to Committee on Public Lands.

H. R. 26—Authorizing the acquisition, establishment and development of the George Washington Memorial Parkway in the District of Columbia and in the adjoining states of Maryland and Virginia. Introduced by Representative Cramton, of Michigan, April 15, 1929. Referred to Committee of the Whole House. Passed the House January 30. Referred to the Senate Committee on the District of Columbia.

S. 3146—To aid in the establishment of State Parks. Introduced by Senator McNary, of Oregon, January 6. Referred to Committee on Public Lands and Surveys.

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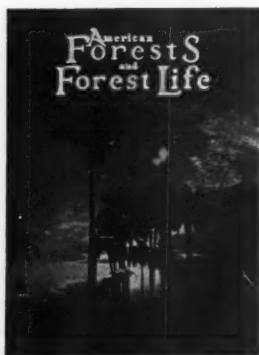
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H. R. 9051—Bill similar to above introduced by Representative Englebright, of California, January 23. Referred to Committee on Public Lands.

INDIAN AFFAIRS

The following bills would create Indian Forests on certain Indian reservations, allowing the lands to be held as tribal property, but assuring their conservative administration by the Forester of the Indian Service. All bills introduced by Senator Frazier, of North Dakota, December 4, 1929, and referred to the Committee on Indian Affairs:

S. 2489—To provide for the establishment of the Colville Indian Forest.

S. 2490—To provide for the establishment of the Klamath Indian Forest.

S. 2488—To provide for the establishment of the Warm Springs Indian Forest.

S. 3166—To provide for the establishment of the Yakima Indian Forest.

H. R. 6865, H. R. 6863, H. R. 6864—Similar bills introduced by Representative Leavitt, of Montana, December 7, 1929, for the establishment of the Colville Indian Forest, the Klamath Indian Forest, and the Warm Springs Indian Forest. Referred to the Committee on Indian Affairs.

H. R. 8529—To provide for the establishment of the Yakima Indian Forest. Introduced by Representative Leavitt, of Montana, January 13. Referred to Committee on Indian Affairs.

WILD LIFE

H. R. 9725—Amending and extending the Alaska game law. Introduced by Mr. Sutherland, of Alaska, February 10. Referred to Committee on Agriculture.

H. R. 243—For the experimental introduction into Alaska of a herd of musk oxen. Introduced by Delegate Sutherland, of Alaska, April 15, 1929. Referred to Committee on Agriculture.

S. 1551—Bill similar to above in Senate introduced by Senator Norbeck, of South Dakota, June 17, 1929. Referred to Committee on Agriculture.

S. 2908—Extending protection to the American eagle. Introduced by Senator Norbeck, of South Dakota. Reported by Committee on Agriculture and Forestry with recommended changes to make the bill more specific and place responsibility with Department of Agriculture, February 12.

H. R. 7994—Bill similar to above introduced by Representative Andresen, of Minnesota, January 6. Hearings held before House Committee on Agriculture and Forestry January 31.

H. R. 7405—Providing a five-year construction and maintenance program for the United States Bureau of Fisheries. Originally introduced as H. R. 6593, redrawn

and introduced by Representative White, of Maine, December 12, 1929. Reported the House, January 24. Reported unfavorably to the Senate, February 5, by Committee on Executive Departments.

H. R. 5278—The so-called "Bag Limit" bill, to amend the Migratory Bird Treaty Act so that the daily kill of migratory birds may not be more than fifteen ducks, four geese or brant, ten snipe, four woodcock, fifteen sora rail, or ten mourning doves. Introduced by Representative Haugen, of Iowa. Hearings before House Committee on Agriculture January 27 and 28.

PUBLIC DOMAIN

H. R. 6153—Approving the appointment by the President of a Public Domain Commission and authorizing \$50,000 for their expenses. Introduced by Representative Colton, of Utah, December 3, 1929. Passed the House January 24. Reported favorably to the Senate February 5, and again February 10 by Committee on Public Lands and Surveys. Senate Report No. 167.

MISCELLANEOUS

S. Con. Res. 23—To establish an American Conservation Week. Introduced by Senator Wagner, of New York. Referred to Committee on Public Lands and Surveys.

H. R. 9376—For a comprehensive system of flood control throughout the Mississippi Valley and the creation of a Federal Board of Public Works to consist of seven members two of whom shall be of civil life and not of the engineering profession, and five shall be civil engineers, two of whom may be Army Engineers. For the work of this board the appropriation of \$750,000,000 is authorized. Introduced by Representative Sears, of Nebraska, January 31. Referred to Committee on Flood Control.

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A New National Park In the East

(Continued from page 140)

made from Gatlinburg, or one may drive from Knoxville directly to Cherokee Orchard, about fifty miles, and there climb. As it takes from two to five hours to make the ascent with any degree of comfort I recommend spending the night at the balsam lodge on top. See the sunset from West Point; linger on and watch the lights of Knoxville appear. Hasten back to camp by the aid of your flashlight and after supper wrap yourself in blankets and sleep on balsam boughs. Then arise next morning a little before daybreak, in time to reach Myrtle Point to watch the sun rise.

I have stood on more than one high peak in the Swiss Alps, in the Italian Alps, in Saxon Switzerland. I have gazed down upon the Seine, the Elbe, the Danube from commanding points. I have seen the Rockies, and visited the Yellowstone and marveled at its wonders. But I know of nothing more soul-satisfying in my own experience than the hours I have spent on top of Mount Le Conte, absorbing the ever-changing panorama that greeted my eyes in whatever direction I turned. There was far too much to take in at once. It was as if some giant hand had slung mountains recklessly, hither and thither, and they had landed where they would.

One appeal of the new park is that it will be open and accessible at all seasons of the year. Each season will offer its own special attraction. One will find the mountains aglow from early spring until late autumn. The trailing arbutus pushes its tiny fragrance up through the snow in February and March; violets, thirty different varieties of them, are in their prime in April and May. When the vast, hardwood forests with their infinite variety unfold their leaves, one discovers every shade of green on the hillsides. The sarvis berry is followed by the flowering dogwood and red bud, then in quick succession come the azaleas, the laurel, the rhododendron and mountain rose bay, here seen at the very height of their magnificence—entire forests of them, a floral display unsurpassed. Blossom and bloom succeed blossom and bloom from February until late November. Nowhere is the fall foliage more brilliant, and an unforgettable sight is the mountain tops shining in the snow and the lower slopes ablaze with fall colors.

Bob-Sleigh Run Barred from New York Forests

The law passed in 1929, authorizing the construction of a bob-sleigh run and return way on state forest land in the town of North Elba, Essex County, New York, was declared unconstitutional in a recent decision

handed down by the Appellate Division, Third Department, in Albany. The decision was based on an interpretation of Section VII, Article VII, of the New York State constitution which declares that the Forest Preserve "shall be forever kept as wild lands."

Action on this case, which has attracted nation-wide attention, was started by the Association for the Protection of the Adirondacks.

Skinner Joins Lumber Association

Richmond H. Skinner, of Boston, Massachusetts, has joined the engineer staff of the National Lumber Manufacturers Association as structural engineer, succeeding Nelson S. Perkins, who recently resigned to accept a position with the National Committee on Wood Utilization.

Mr. Skinner received his B. S. degree at the California Institute of Technology in 1923, after a course in chemical engineering at the Massachusetts Institute of Technology. He has had a varied technical experience.

To Direct Fish Investigations

Dr. Carl L. Hubbs, curator of Fishes of the University of Michigan Museum, will direct scientific investigations of this university's Department of Conservation in game and commercial fish problems. He succeeds the late Dr. Jan Metzelaar and will carry on studies of food and migrations of various species of fish. The lake and stream survey will be continued. Investigations of diseases and conditions in hatcheries and rearing ponds, and the supervision of chemical, sanitary, and productive operations in the various state hatcheries will be included.

Pine Plantings in Florida

It is estimated that nearly half a million pine trees, the majority year-old seedlings from nurseries maintained by the State Forest Service, will be planted in Florida this season as compared to 6,000 trees set out last year. These trees are destined for future production of naval stores.

Forest Seeds From Other Lands

Seeds from foreign lands are used in forest nurseries maintained by the Pennsylvania Department of Forests and Waters, although those of the more common species are obtained in the State Forests.

Plantings last year included larch seed from Japan, Norway spruce from the Silicia district in Germany, and Scotch pine from the Riga district in Russia. Hemlock, white pine, pitch pine, shortleaf pine, ash, red oak, and walnut seeds were secured in Pennsylvania, and red pine seed in Minnesota.

The South and the Nation's Timber

Under full production and managed for continuous growth, forest lands of the South could provide at least one-third of the wood requirements of the entire United States, says E. L. Demmon, director of the Southern Forest Experiment Station, in his annual report.

It is estimated that 145,000,000 acres of land are in forests or best suited to forest growth in the eight states served by the Southern Forest Experiment Station—Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Texas, and Oklahoma. With the addition of 45,000,000 acres in Virginia and the Carolinas, a total of 190,000,000 acres in the South are classed as actual or potential forest land.

Game Keeper Saves Lives of Deer

Somewhere in the woods near Grayling, Michigan, are two big buck deer which owe their lives to Otto Failing, keeper of the Crawford Game Refuge.

Early in December Failing was patrolling the hills in the western part of the refuge when he saw two bucks, heads together, and evidently fighting.

"Their horns were locked, and after watching them half an hour or so, I decided they couldn't break away," Failing said in reporting the incident. "I took an oak club about eight feet long and broke a horn off one of the bucks. When the deer walked away, the broken horn was still in the other deer's antlers. Both were eight-point bucks and each weighed about 150 pounds."

Colorado Winter Outing

The Fifteenth Annual Winter Outing of the Colorado Mountain Club was held at Grand Lake, February 15 to 23. Among the features were skiing, ski-joring, skating, and a number of exploration trips to Shadow Mountain and Lake Verna.

Florida Names Forestry Officers

C. H. Overman, of Bagdad, Florida, was elected president of the Florida Forestry Association at its annual meeting at Jacksonville February 11, succeeding B. F. Williamson, of Gainesville. Mr. Overman is land and timber agent for the Bagdad Land and Lumber Company, and one of the outstanding leaders in conservation in the state. Carl F. Speh, of Jacksonville, secretary-manager of the Pine Institute of America, was elected vice-president, and Russell W. Bennett, of Jacksonville, was reelected secretary-treasurer. The Board of Directors was increased from ten to nineteen members.

Poplar Brings Return of \$650

While marketing timber from a tract in the vicinity of West Jefferson, North Carolina, Millard Goodman was about ready to pass up an aged poplar tree that had been considered worthless because of a defect in its side. One day he sunk his ax into the apparently half-dead tree and found that the grain showed a beautiful curly figure.

He received several bids on five twelve-foot logs cut from the tree and finally sold them to a veneer company in Bassett, Virginia, for \$650. Soon after the deal had been made, a buyer for an English firm is said to have offered \$1,000 for the logs.

Maryland Has Small Fire Loss

Forest fires in Maryland in 1929 totaled 586 and burned 17,926 acres, with a loss of \$78,860, according to a recent announcement of the State Forestry Department. The cost to the state and counties for fire suppression during the year was \$7,150.

In 1928 fires burned over 32,000 acres, while in 1926 the area burned over was 58,000 acres. This improvement, the Forestry Department states, has been due to the enlisting of greater numbers of forest wardens and better equipping them for their work. A vigorous fire-prevention campaign is being inaugurated throughout the state.

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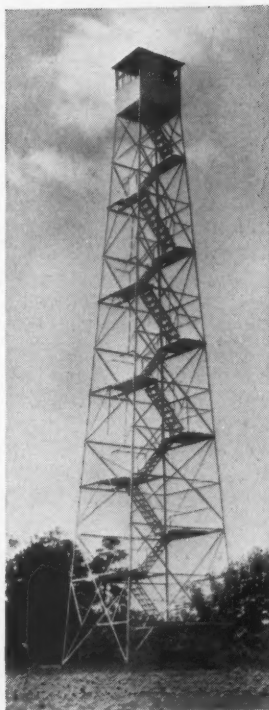
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"WHO'S WHO" AMONG THE AUTHORS IN THIS ISSUE

GEORGE F. HATCH's occupation is instructing young Americans. Several years of his life have been spent among the children of Alaska. Born in South Dakota, he was graduated from Dakota Wesleyan University in 1915, and when he is not teaching, he is following forest trails.



George F. Hatch

He has explored much of the Olympic Peninsula and southeastern Alaska.

HORACE M. ALBRIGHT, who succeeded Stephen Mather as director of the National Park Service in 1929, is a true product of the mountains, a lover of the forests and the wilderness. Born in California, he grew up with the Sierra Nevada Mountains as his playground. He first became associated with the Department of Interior in 1913, following his graduation from the University of California, and later became legal advisor to Mr. Mather. In 1919 he became superintendent of Yellowstone National Park and field assistant to the director.



Dr. George Stewart

vey of sheep and cattle ranches in the State. Three years ago he prepared a special report on the State's Public Domain.

He received his B. S. degree at the Utah Agriculture College, 1913; his M. S. degree at Cornell University in 1917, and his Ph.D. degree at the University of Minnesota in 1926. He is the author of many popular and scientific articles on the various aspects of the Public Domain.

LAURA THORNBOROUGH has roamed the Great Smoky Mountains on the Tennessee-North Carolina border for a number of years, writing of their beauty and picturesqueness. She is a historian and student of nature, and has written much on both subjects.

SANFORD B. HUNT is head of the Farmers' Reforestation Committee of the California Extension Service and the Santa Cruz County Farm Bureau. He began his forestry work after studying at Cornell University, and later engaged in lumbering in British Columbia. Following this he became interested in mining and newspaper work. However, the lure of the forest was too great for him and he returned to California and his forestry work several years ago.

W. B. GILLETTE is a noted artist of the outdoors, and has contributed generously to bird and animal life. He makes his home at Averill Park, New York, where he observed the antics of the white-breasted nuthatch which inspired the painting on the cover of this magazine.

E. T. ALLEN, forester and executive of the Western Forestry and Conservation Association, has devoted more than thirty-two years in government, state and private forestry work, twenty years of which has been given to the development of the Western Forestry and Conservation Association.



E. T. Allen

MILDRED G. DURBIN is a well known writer living at Columbus, Ohio.

W. DUSTIN WHITE is a hardy New Englander who finds his greatest recreation in winter sports. He lives on a small dairy farm at Ryegate, Vermont, where he writes considerably about hunting, fishing, and recreation excursions in Vermont, New Hampshire and Maine. He has published one book on winter sports.



W. Dustin White

MINNIE L. BRIGGS makes her home on the borders of Rock Creek Park, in the National Capital, where she is well known. A lover of the beautiful, she finds a limitless field for her art in nature, and expresses what she sees with enthusiasm and delicate accuracy.

ERLE KAUFFMAN is an assistant editor of American Forests and Forest Life.

